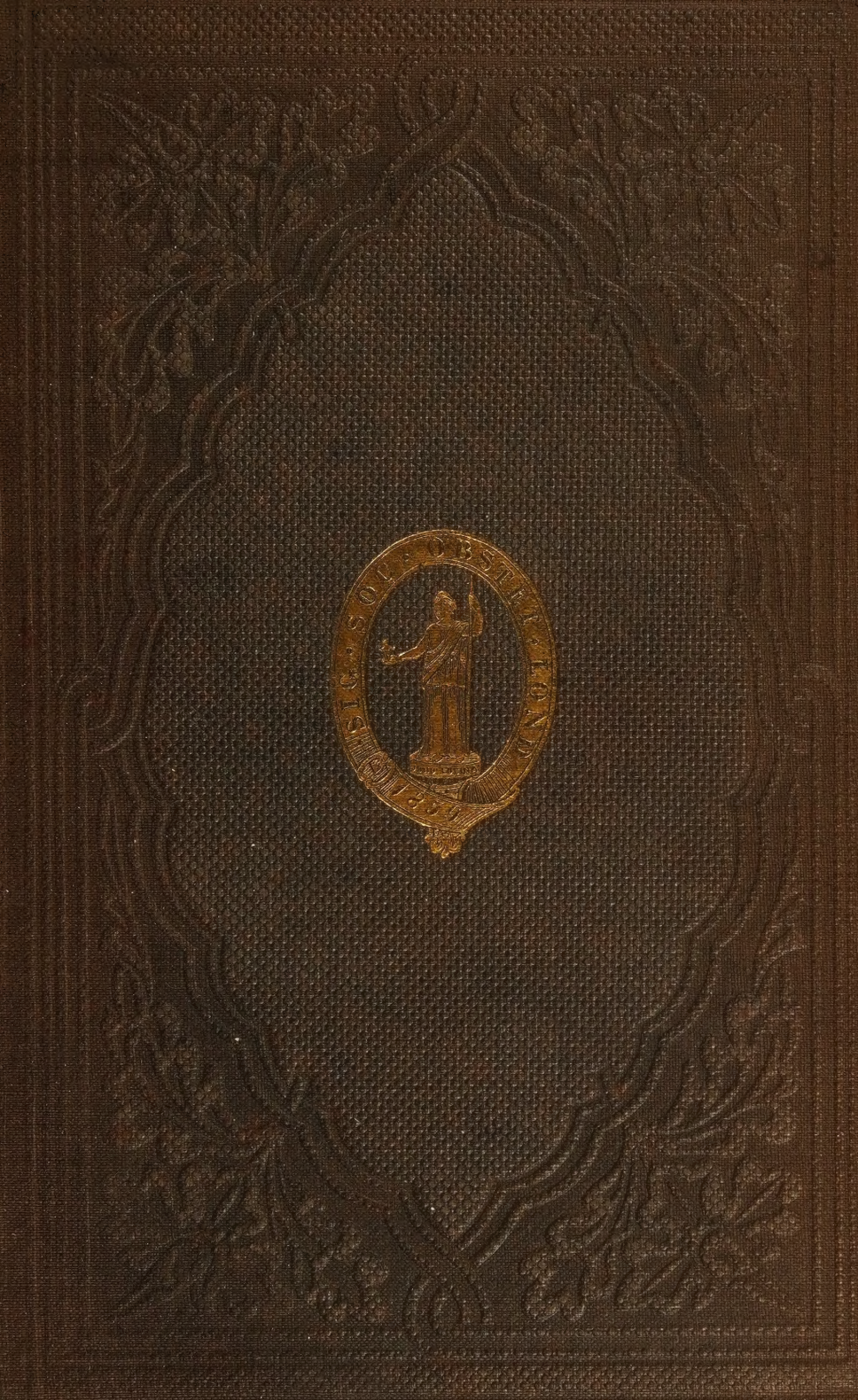

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TRANSACTIONS

OF THE

OBSTETRICAL SOCIETY

OF

LONDON.

VOL. III.

FOR THE YEAR 1861.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

LONDON:
LONGMAN, GREEN, LONGMAN, AND ROBERTS.
1862.

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James Matthews Duncan, M.D., A.M., Lecturer on Midwifery and Diseases of Women and Children, Surgeon's Hall, 30, Charlotte square, Edinburgh.

Archibald Hall, M.D., Professor of Midwifery, University of McGill College, Montreal, Canada.

James Y. Simpson, M.D., Professor of Midwifery, University of Edinburgh, Physician-Accoucheur to the Queen in Scotland, 52, Queen street, Edinburgh.

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1859 ALLEN, JAMES, Lecturer on Midwifery at the York School of Medicine; 16, Petergate, York. *Council*, 1859-60. *Hon. Loc. Sec.*

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1859 ANDREWS, JAMES, M.D., 8, Cornwall crescent, Camden road, N.W.

1861 APPLETON, JOHN GRIGG, Luton, Bedfordshire.

1859 ARCHER, JOHN, F.R.C.S.E., Surgeon to the Birmingham Lying-in Hospital; Deritend, Birmingham.

1859 ARDEN, ARTHUR OCTAVIUS, Surgeon to the Hull Lying-in Charity; 29, Nile-street, Hull.

1861 ARMSTRONG, JOHN, M.D., Gravesend, Kent.

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1859 ASPINALL, THOMAS, Belgrave square, Over Darwen, Lancashire.

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1859 AYLING, WILLIAM HENRY, 136, Great Portland street, W.

1859 BABINGTON, C. METCALFE STUART, F.R.C.P., Physician-Accoucheur to Queen Charlotte's Lying-in Hospital, and Assistant-Physician to the Hospital for Sick Children; 29, Hertford street, Mayfair, W. *Council*, 1859-60. *Vice-Pres.* 1861. (Deceased.)

Elected

1859 BADGLEY, FRANCIS, M.D., Holyrood House, Great Malvern.

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1859 BAILEY, HENRY WOODRUFFE, F.R.C.S.E., Thetford, Norfolk.

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1859 BARNES, ROBERT, M.D., F.R.C.P., Physician to the Royal Maternity Charity, and Assistant Physician-Accoucheur to the London Hospital; 12, Finsbury square, E.C. *Vice-Pres.* 1859-60. *Council,* 1861-62.

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1859 BARNETT, LYSANDER HOOKER, 72, Fore st., Limehouse, E.

1859 BARNETT, THOS. W., 72, Fore street, Limehouse, E.

1859 BARRON, GEORGE B., M.D., Surgeon to the Southport Hospital; Southport, Lancashire.

1861* BARTRUM, JOHN S., Surgeon to the Bath General Hospital; 41, Gay street, Bath.

1861 BATE, HENRY FRANCIS, 1, Clifton terrace, Maida hill, N.W.

1859 BATEMAN, HENRY, F.R.C.S.E., 32, Compton terrace, Upper street, Islington, N.

1859 BATTY, EDWARD, Lecturer on Midwifery and Diseases of Women and Children to the Liverpool School of Medicine; 34, Stafford street, Liverpool. *Council,* 1859-60.

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1859 BLOXAM, W., M.D., Lecturer on Midwifery at the Grosvenor-Place School of Medicine; 28, Duke street, Grosvenor square, W. *Council*, 1860-62.

1859 BLOXAM, W., Jun., 21, Mount street, Grosvenor square, W.

1861 BLUNDELL, THOMAS LEIGH, M.D., 12, Warrior square, St. Leonard's-on-Sea.

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1861 EARLE, JAMES L., Resident Surgeon-Accoucheur to the Birmingham General Dispensary.

1859 * EASSON, JAMES, 23, Princes street, Cavendish square, W.

1861 EASTLAKE, HENRY E., M.D., 20 Bentinck street, W.

1859 EDGCUMBE, RICHARD DARKE, Surgeon to the Royal Dispensary, Pimlico; 26, Shaftesbury crescent, Pimlico, S.W.

1861 EDWARDS, THOMAS EDWIN, L.R.C.P. Lond., 28, Gloucester crescent north, Westbourne park, W.

1859 ELKINGTON, FRANCIS, M.D., Consulting Accoucheur to the Birmingham and Midland Counties Lying-in Hospital, and Lecturer on Midwifery at Sydenham College; 106, New Hall street, Birmingham. *Council*, 1859. *Vice-Pres.* 1860-61.

1859 ELLIOTT, ROBERT, F.R.C.S. Ed., Senior Surgeon to the Chichester Infirmary; North street, Chichester.

1861 ELLIS, ROBERT, Obstetric Surgeon to the Chelsea, Brompton, and Belgrave Dispensary; 63, Sloane street, S.W.

1861 ESSERY, THOMAS AUBREY, F.R.C.S.E., Senior Surgeon to the Swansea Infirmary; Melbourne House, Swansea.

1859 EVANS, GRIFFITH FRANCIS DORSETT, M.D., St. Mary's, Bedford.

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1859 EVERSHED, THOMAS EVANS, Billingshurst, Sussex.

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1859 FAIRCLOTH, RICHARD, F.R.C.S.E., Newmarket, Cambridgeshire.

Elected

1861 Farr, Geo. F., L.R.C.P. Edin., 171, Union street, Southwark, S.E.

1859 Fergusson, William, F.R.C.S.E., F.R.S., Surgeon Extraordinary to H.M. the Queen, Professor of Surgery in King's College and Surgeon to King's College Hospital, Consulting Surgeon to the Samaritan Free Hospital; 16, George street, Hanover square, W. *Vice-Pres.* 1862.

1861 Fetherston, Gerald H., M.D., Resident Accoucheur Melbourne Lying-in Hospital, Australia.

1859 Fisher, Alder, 15, John street, Bedford row, W.C.

1860 Fox, William Tilbury, M.D., Kensington Gardens square, Hyde Park, W.

1861 Frankland, Thomas Thrush, Ripon, Yorkshire.

1861 Freeman, Henry Lankester, Saxmundham, Suffolk.

1861 French, William John Blake, Wilton, Wiltshire.

1860 Garland, Edward Charles, Silver street, Yeovil, Somerset

1859 Garty, Francis Boyle, 4, Elizabeth place, Brixton road, S.

1859 Gaskoin, George, 3, Westbourne Park, W.

1859 Gervis, Henry, M.D., Assistant Obstetric Physician to St. Thomas's Hospital; 12, St. Thomas's street, Southwark, S.E.

1859 Gibb, George Duncan, M.D., Physician-Accoucheur and Physician for Diseases of Women and Children to the St. Pancras Royal Dispensary; 19a, Portman street, Portman square, W. *Council*, 1859-60-61.

1860 Gill, Samuel L., M.D., L.R.C.P. Edin., 4, Campbell, terrace, Bow road, E.

1860 Gillibrand, William, L.R.C.P. Edin., Francis street, Blackburn, Lancashire.

1859 Goddard, Samuel Palmer, M.D., Longton, Staffordshire Potteries.

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1859 Gould, Henry Merton, Wateringbury, Kent.

1859 Goulstone, John G., M.D., Knighton, Radnorshire.

Elected

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1861 GREAM, GEORGE THOMPSON, M.D., 2 Upper Brook street, Grosvenor square, W. *Council,* 1862.

1859 GREENHALGH, ROBERT, M.D., Physician-Accoucheur and Lecturer on Midwifery to St. Bartholomew's Hospital, Physician-Accoucheur to the Samaritan Free Hospital, Consulting Physician-Accoucheur to the St. John's Wood and Portland Town Dispensary; 76, Grosvenor street, W.

1859 GRIFFITH, THOMAS TAYLOR, F.R.C.S.E., Consulting Surgeon to the Wrexham Infirmary; Wrexham, Denbighshire.

1859 GRIMSDALE, THOS. F., Surgeon to the Lying-in Hospital, and Lecturer on Diseases of Children at the Royal Infirmary School of Medicine; 12, Rodney street, Liverpool. *Council,* 1861-62.

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1859 GUNN, THEOPHILUS MILLER, F.R.C.S.E., 40, York place, Baker street, W.

1859 GUY, HENRY, 1, Dorset square, N.W.

1859 HADEN, FRANCIS SEYMOUR, F.R.C.S.E., Hon. Surgeon to the Government School of Science and Art; 62, Sloane street, S.W. *Council,* 1861-62.

1859 HALL, ALFRED, M.D., Senior Physician to the Brighton, Dispensary; 30, Old Steyne, Brighton. *Hon. Loc. Sec.*

1859 HALL, FREDERICK, 1, Jermyn street, St. James's, S.W.

1860 HARDEY, KEY, Surgeon to the West City Dispensary; 2, Earl street, Blackfriars, E.C.

1859 HARDEY, ROBERT, late Lecturer on Obstetrics, Hull and East Riding School of Medicine; 3, Charlotte street, Hull. *Council,* 1860-62. *Hon. Loc. Sec.*

1859 HARLEY, GEORGE, M.D., Professor of Medical Jurisprudence, University College, and Physician to the Northern Dispensary; 77, Harley street, Cavendish square, W. *Council,* 1861-62.

1859 HARPER, PHILIP H., F.R.C.S.E., Assistant-Surgeon to the London Home for Surgical Diseases of Women; 30, Cambridge street, Hyde Park, W.

Elected

1859 HARRINSON, ISAAC, F.R.C.S.E., Castle street, Reading, Berks. *Council,* 1862. *Hon. Loc. Sec.*

1859 HARRIS, ABRAHAM, L.R.C.P. Edinb., Commercial square, Camborne, Cornwall.

1861 HARRIS, HERBERT ROBEY, Union square, Bury, Lancashire.

1861 HARRIS, WILLIAM JOHN, 4, Terrace, Worthing.

1859 HARVEY, WILLIAM, 48, Lonsdale square, Islington, N.

1860 HATHERLEY, N. COLLINS, M.D., Stonehouse, Plymouth.

1861 HAVILAND, EDWARD SAVAGE, M.D., 13, Lyon Terrace, Maida Hill.

1859 HAWTHORNE, ARTHUR NEVILLE, F.R.C.S.E., Eccleshall, Staffordshire.

1859 HEMSTED, HENRY, Hurstborne Tarrant, Andover, Hants.

1859 HENLEY, THOMAS LEAMAN, 38, Church street, Croydon, Surrey.

1859 HERAPATH, WILLIAM BIRD, M.D., F.R.S., 32, Old Market street, Bristol.

1860 HESS, AUGUSTUS, M.D., Physician to the Jews' Hospital, Mile End ; 14, City road, Finsbury square, E.C.

1859 HEWITT, GRAILY, M.D., Physician to the British Lying-in Hospital, Lecturer on Midwifery and Diseases of Women and Children at St. Mary's Hospital Medical School ; 36, Berkeley square, W. *Hon. Sec.* 1859-62.

1860 HICKS, JOHN BRAXTON, M.D., Assistant Physician-Accoucheur to Guy's Hospital ; 6, Wellington street, London bridge, S. E. *Council,* 1861-62.

1860 HIGGS, THOMAS FREDERIC, L.R.C.P. Edinb. ; Wolverhampton street, Dudley.

1859 HINGESTON, JAMES ANSLEY, 22, Clifton terrace, Brighton.

1859 HIRD, FRANCIS, F.R.C.S.E., formerly Surgeon to the Royal Infirmary for Children, Surgeon to Charing Cross Hospital ; 17, Clifford street, Bond street, W. *Council,* 1861-62.

1859 HODGES, RICHARD, M.D., Rochford, Essex.

1859 HODGSON, GEORGE FREDERICK, 52, Montpellier road, Brighton.

1859 HOLMAN, ANDREW, 10, John street, America square, E.C.

1859 HOLMAN, CONSTANTINE, M.D., Reigate, Surrey.

1860 HOLMAN, HENRY MARTIN, M.D., Hurstpierpoint, Sussex.

Elected

1861 HORTON, GEORGE EDWARD, Dudley, Worcestershire.

1861 HOUNSELL, HENRY STRANGEWAYS, M.D., Oakfield, Torquay, Devon.

1859 HURST, ROBERT CHARLES, High street, Bedford. (*Deceased*).

1859 HUSSEY, EDWARD LAW, F.R.C.S.E., Surgeon to the Radcliffe Infirmary, St. Aldgate's, Oxford.

1859 HUTCHINSON, JONATHAN, Assistant-Surgeon to the London Hospital; 4. Finsbury circus, E.C.

1861 HUTTON, CHARLES, M.D., Physician to the General Lying-in Hospital, 26, Lowndes street, Belgrave square, S.W:

1859 ILOTT, JAMES WILLIAM, Bromley, Kent.

1859 IMAGE, WILLIAM EDMUND, F.R.C.S.E., Senior Surgeon to the Suffolk General Hospital; Bury St. Edmunds, Suffolk.

1859 IRWIN, WILLIAM CROSSLEY, M.D., Belvoir street, Leicester.

1859 JACKSON, HENRY, M.D., Seaton, Workington, Cumberland.

1861 JACKSON, THOMAS HAYES, M.D., 19, Market place, Darlington, Durham.

1859 JAMES, HENRY, F.R.C.S.E., Surgeon and Accoucheur to the City of London Lying-in Hospital; 22 Queen Anne street, W. *Council*, 1862.

1859 JENNINGS, JOSEPH C. S., Abbey House, Malmesbury, Wilts.

1860 JEPSON, HENRY, F.R.C.S.E., Surgeon to the Kingston Dispensary, Hampton, Middlesex, S.W.

1859 JESSOP, WALTER, Surgeon to the General Hospital, and to the Dispensary for Diseases of Women and Children; 4, Royal crescent, Cheltenham.

1861 JONES, EDWARD, M.D., The Park, Sydenham, Kent.

1859 JONES, GEORGE, 12, New Hall street, Birmingham.

1859 JONES, JOHN WILLIAM, 8, Brynteg terrace, Upper Bangor, Caernarvonshire.

1859 JULER, HENRY CUNDELL, M.D., 65, Connaught terrace, Hyde Park, W.

1861 JUNKER, F. E., M.D., 56 Gower street, W.C.

1859 KELLY, JOHN ROBERT, Surgeon to the Royal Portsmouth Hospital; High street, Gosport, Hants. *Hon. Loc. Sec.*

1859 KEELE, GEORGE THOMAS, 1, Bruce villas, St. Paul's road, Highbury.

Elected

1859 KENDALL, THOMAS MARSTERS, F.R.C.S.E., Surgeon to the West Norfolk and Lynn Hospital, King's Lynn, Norfolk.

1859 KENT, WALTON, Walsham-le-Willows, Ixworth, Suffolk.

1861 KERBY, WILLIAM HOLMAN, Manningham, Bradford.

1859 KIALLMARK, HENRY WALTER, 46, Princes square, Westbourne Grove, W.

1859 KIMBELL, JONATHAN HENRY, Manor House, Knowle, Birmingham.

1860 KINGSFORD, EDWARD, F.R.C.S.E., Surgeon to the Sunbury Dispensary; Sunbury, Middlesex, S.W.

1860 KISCH, JOSEPH, 2, Circus place, Finsbury Circus, E.C.

1859 LANGMORE, J. CHARLES, M.B., F.R.C.S.E., 20, Oxford terrace, Hyde park, W. *Council*, 1861-62.

1859 LEE, NEWTON B. C., 11, Talbot terrace, Talbot road, Bayswater, W.

1859 LEECH, EDWARD, Pallant, Chichester, Sussex.

1860 LEISHMAN, WILLIAM, M.D., 80, Bath street, Glasgow.

1859 LOCOCK, SIR CHAS., Bart., M.D., First Physician-Accoucheur to H.M. the Queen, Consulting Physician to the General Lying-in Hospital; 26, Hertford street, Mayfair, W. *Honorary President.*

1861 LOVE, GILBERT, Wimbledon, Surrey, S.W.

1860 LOWE, JOHN, M.D., Surgeon to the West Norfolk and Lynn Hospital; King street, King's Lynn, Norfolk.

1859 MACKINDER, DRAPER, M.D., Consulting Surgeon to the Gainsborough Dispensary; Gainsborough, Lincolnshire.

1859 MACKINLAY, JOHN, M.D., Isleworth, Middlesex.

1859 MACLAREN, ALEXANDER C., 29, Harley street, W.

1859 MACRAE, JOHN, 4, High street, Lewes, Sussex.

1861 McVEAGH, DENIS, L.K. and Q.C.P. Ireland; Hales street, Coventry, Warwickshire.

1859 MADGE, HENRY, M.D., 32, Fitzroy square, W.

1860 MARLEY, HENRY FREDERICK, Padstow, Cornwall.

1859 MARLEY, RICHARD, Bromyard, Herefordshire.

1860 MARSHALL, JAS., M,D., 5, Belvidere road, Upper Norwood, S.

1859 MARSHALL, JOHN BRAKE, 21, Princes street, Hanover sq., W.

1859 MARSHALL, PETER, 42, Bedford square, W.C.

Elected

1860 MARTIN, HENRY VICTOR, F.R.C.S.E., Staines, Middlesex.

1859 MARTYN, WILLIAM, F.R.C.S.E., 6, Trevor terrace, Rutland gate, Brompton, S.W.

1861 MATTHEWS, JOHN, M.D., 4, Mylne street, Myddelton square, E.C.

1859 MEADOWS, ALFRED, M.D., Assistant-Physician for Diseases of Women and Children to King's College Hospital, Physician-Accoucheur to the St. George's and St. James's Dispensary; 9, Cavendish place, Cavendish square, W. *Council*, 1862.

1859 MERRIMAN, SAMUEL WILLIAM JOHN, M.D., Consulting-Physician-Accoucheur to the Westminster General Dispensary, and Physician-Accoucheur to the Western General Dispensary; 3, Charles street, Westbourne terrace, W. *Council*, 1859-60.

1859 METEYARD, CHARLES JOSEPH, M.R.C.P., Clunbury, Shrewsbury.

1861 MIDDLETON, WILLIAM, F.R.C.S.E., 25, Lansdowne place, Leamington, Warwickshire.

1859 MILES, CHARLES, 13, Conduit st. west, Westbourne ter., W.

1859 MILLARD, WILLIAM JOSEPH, Portland house, Whitchurch, Herefordshire.

1859 MITCHELL, JOSEPH THOMAS, F.R.C.S., 8, Percy place, Clapham road, S.

1859 MOORHEAD, JOHN, M.D., Surgeon to the Weymouth Infirmary and Dispensary, Weymouth, Dorset.

1859 MOYLE, JOHN, Chacewater, Truro, Cornwall.

1859 MOYLES, THOS., M.D., 109, Broad street, Birmingham.

1859 MURPHY, EDWARD WILLIAM, M D., Professor of Midwifery in University College, and Obstetric Physician, University College Hospital, Physician-Accoucheur to the Northern Dispensary; 59, Upper Berkeley street, Portman square, W. *Vice-Pres.* 1859-60.

1859 MURRAY, GUSTAVUS CHARLES P., M.D., 17, Green street, Grosvenor square, W.

1859 MUSGRAVE, JOHNSON THOMAS, Pembroke place, Finchley road, N.W. *Council*, 1859-60.

1859 NAPPER, ALBERT, Broad Oak, Cranley, Guildford, Surrey.

Elected

1859 NASON, RICHARD BIRD, Nuneaton, Warwickshire.

1859 NEAL, JAMES, 85, New Hall street, Birmingham.

1861 NELSON, DUCKWORTH, F.R.C.S.E., Marlbro' road, St. John's Wood, N.W.

1859 NEWMAN, WILLIAM, M.D., Fulbeck, Grantham, Lincolnshire.

1859 NEWNHAM, WILLIAM, Richmond villa, Tunbridge Wells, Kent.

1859 NEWTON, EDWARD, F.R.C.S.E., 30, Fitzroy square, W.

1859 NICHOLSON, WILLIAM HUNTER, 9, Phœnix street, Clarendon square, N.W.

1861 NICHOLS, GEORGE W., Almond Tree House, Rotherhithe, S.E.

1861 NOVERRE, ARTHUR, 25, South street, Park lane, W.

1859 NUNN, THOMAS WILLIAM, Assistant-surgeon to the Middlesex Hospital; 8, Stratford place, Oxford street, W.

1860 OAKSHOTT, JOHN, Highgate.

1859 O'FLAHERTY, THOMAS AUSTIN, M.D., 2, Baker street, Portman square, W.

1859 OLDHAM, JAMES, 53, Norfolk square, Brighton.

1859 OLDHAM, HENRY, M.D., F.R.C.P., Obstetric Physician and Lecturer on Midwifery and Diseases of Women and Children at Guy's Hospital; 26, Finsbury square, E.C. *Vice Pres.* 1859. *Council*, 1860. *Treas.* 1861-62.

1859 ORFORD, WILLIAM COCKERELL, 211, High street, Deritend, Birmingham.

1859 OWEN, EDWARD ROBERT, F.R.C.S.E., Surgeon to the Oxford Lying-in Institution; Beaumont street, Oxford.

1861 OWEN, WILLIAM B., 61, Cleveland square, Hyde park, W.

1859 PALFREY, JAMES, M.D., 12, Wellington street, Southwark S.E.

1861 PALMER, SILAS, M.D., London road, Newbury, Berks.

1860 PAYNE, CHARLES HENRY, M.D., Wimbledon, Surrey.

1860 PAYNE, EDWIN, L.R.C.P. Edin., 34, City road, Finsbury square, E.C.

1860 PAYNE, GEORGE BROWN, Manchester road, Hyde, Cheshire.

1860 PEARSE, GEORGE, L.R.C.P. Edin., 10, Regent street, Westminster, S.W.

1861 PEARSE, FREDERICK, L.R.C.P. Edin., 49, Crockherbtown, Cardiff, Glamorganshire.

1859 PEIRCE, R. KING, 16, Norland place, Notting hill, W.

1859 PINCHARD, BENJAMIN, M.D., Cottenham, Cambridgeshire.

Elected

1860* PLOWMAN, WM. T., M.D., St. Austell, Cornwall.

1859 POLLARD, WILLIAM, Jun., Surgeon to the Torbay Infirmary and Dispensary, Torquay, Devon.

1860 POLLOCK, TIMOTHY, M.D., 26, Hatton Garden, E.C.

1860 PORTER, CHARLES, 54, Digbeth, Birmingham.

1859 POTTER, JEPHSON, M.D., 109, Upper Parliament st., Liverpool.

1859 POUND, GEORGE, Odiham, Hants.

1859 POWELL, ROBERT GEORGE, Buntingford, Herts.

1859 PRANCE, ROBERT ROOKE, M.D., Heath street, Hampstead N.W.

1859 PRIESTLEY, W. O., M.D., Physician-Accoucheur to, and Lecturer on Midwifery at the Middlesex Hospital, and Physician-Accoucheur to the St. Marylebone Infirmary; 31, Somerset street, Portman square, W. *Council,* 1859-60-61.

1859 PRITCHARD, EDWARD WILLIAM, M.D., 11, Berkeley terrace, Glasgow. *Hon. Loc. Sec.*

1860 PROUDLOVE, THOMAS JAMES, M.R.C.P., Tattenham, Chester.

1859 PYLE, JOHN, F.R.C.S.E., 56, Oxford terrace, Hyde Park, W.

1859 RADFORD, THOMAS, M.D., Consulting-Physician, St. Mary's Hospital, Manchester; Moor field, Higher Broughton, Manchester. *Vice Pres.* 1859.

1859 RAINEY, WILLIAM BAINES, L.R.C.P. Ed., Hogsthorpe, Lincolnshire.

1859 RAMSAY, JOHN ALLEN, L.R.C.P. Ed., Great Shelford, Cambridge.

1860 RAMSBOTHAM, JOHN HODGSON, M.D., 16, Park place, Leeds.

1859 RANDALL, JOHN, M.D. Lond., Medical Officer, St. Marylebone Infirmary; 14, Portman street, Portman square, W.

1860 RANSOM, ROBERT, F.R.C.S., 5, Jesus lane, Cambridge.

1861 RASCH, ADOLPHUS, A. F., M.D., Hon. Phys. to the Eastern Dispensary of the German Hospital, 7, South street, Finsbury square, E.C.

1859 RAY, EDWARD, F.R.C.S.E., Dulwich, Surrey, S.

1860* RAYNER, JOHN, 19, Kingsland crescent, Kingsland road, N.E.

1860 RAYNER, THOMAS, M.D., Great Malvern, Worcestershire.

1859 RAYNES, HENRY, Gringley-on-the-hill, Bawtrey, Yorkshire.

1859 REE, HENRY PAWLE, L.R.C.P. Ed.. Walham green, Fulham, S.W.

Elected

1859 Reece, George, 45, Sussex gardens, Hyde Park, W.

1859 Remington, Thomas, Medical Officer to the Clapham General Dispensary; 1, Grove place, North Brixton, S.

1860 Renton, John, Shotley bridge, Gateshead, Durham.

1860 Rhodes, James, Glossop, Derbyshire.

1859 Rice, James, M.D., Surgeon to the Western Dispensary, Broadway, Westminster; 19, Langham street, Langham place, W.

1860 Richard, Edward Williams, Prospect House, Finchingfield, Essex.

1860 Richards, John Smith Crosland, 36, Bedford sq., W.C.

1859 Richards, Samuel, M.D., 36, Bedford square, W.C.

1859 Richardson, Richard, L.R.C.P. Edinb., Rhayader, Radnorshire.

1859 Richardson, William Thomas, Ivy House, Highgate, N.

1860 Ritchie, George, M.D.. Billinghay, Sleaford, Lincolnshire.

1859 Roberts, David Lloyd, M.D., Surgeon to St. Mary's Hospital, Manchester; 23, St. John's street, Deansgate, Manchester. *Hon. Loc. Sec.*

1860 Roberts, Robert Price, Rhyl, Flintshire.

1860 Robertson, Charles, L.R.C.P. Ed., 7, Queen street, Scarborough, Yorkshire.

1860 Robins, George, L.R.C.P. Ed., 45, Charlotte street, Fitzroy square, W.

1859 Robinson, Thomas, M.D., 64, Lamb's Conduit street, W.C.

1860 Roe, William Hamilton, M.B., M.R.C.P., Assistant-Physician to the Westminster Maternity Charity; 57, Park street, Grosvenor square, W.

1859 Rogers, William Richard, M.D., Physician to the Samaritan Free Hospital; 56, Berners street, Oxford street, W.

1859 Roots, William Sudlow, F.R.C.S.E., F.L.S., Surgeon to the Royal Establishment at Hampton Court, Kingston-on-Thames, S.W.

1860 Roper, Alfred George, High street, Croydon, Surrey.

1859 Rose, Henry Cooper, M.D., High street, Hampstead, N.W.

1859 Ross, Daniel, Surgeon to the Metropolitan Police; 10, Commercial place, Commercial road east, E.

1859 Ross, George, L.R.C.P. Ed., Surgeon to the Western City Dispensary; 24, Farringdon street, E.C.

Elected

1859 ROUTH, CHARLES HENRY FELIX, M.D., Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-60-61.

1860 ROWLAND, WILLIAM, F.R.C.S.E., Surgeon to the Wrexham Infirmary; Wrexham, Denbighshire. (*Deceased.*)

1861 ROYLE, THEODORE HENRY STRATTON, 1, Church terrace, Bicester, Oxon. (*Deceased.*)

1861 RUSSELL, WILLIAM ALEXANDER, L.R.C.P. Ed.; St. Peter street, St. Albans, Herts.

1860 RUSSELL, GEORGE, Bawtry, Yorkshire.

1859 RYAN, MICHAEL, M.D., Newcastle, Staffordshire.

1860 SALUSBURY, JOHN, Ty-Gwrydd, Conway, Caernarvonshire. (*Deceased.*)

1860 SANDERS, GODFREY, F.R.C.S.E., 8, Brewer street, Maidstone, Kent.

1860 SAUNDERS, CHARLES, Foulsham, Norfolk.

1859 SCOTT, JOHN, F.R.C.S.E., Surgeon to the Hospital for Women, Soho square; 65, Harley street, Cavendish square, W.

1860 SEDGWICK, LEONARD WILLIAM, M.D., 78, Baker street, Portman square, W.

1859 SHARPIN, HENRY WILSON, Surgeon to the Bedford General Infirmary, Bedford.

1860 SHAW, GEORGE, Portland House, Battersea, S.W.

1859 SHAW, JAMES, L.R.C.P. Ed., 52, York street, Cheetham, Manchester.

1859 SHEARMAN, EDWARD JAMES, M.D., Rotherham, Yorkshire.

1859 SHEEHY, WILLIAM HENRY, L.R.C.P. Ed., 4, Claremont square, Pentonville, N.

1859 SHIPTON, WILLIAM PARKER, Surgeon to the Buxton Bath Charity; Buxton, Derbyshire.

1860 SHIRLEY, HENRY JAMES, Hartley row, Hampshire.

1861 SHORTT, JOHN, M.D., Assistant-Surgeon H.M.I. Army, Chinglepet, Madras District.

1861 SISSON, ANDREW, Reigate, Surrey.

1859 SKEGG, ROBERT, 2, St. Martin's place, Trafalgar square, W.C.

1860 SKINNER, THOMAS, M.D., 1, St. James's road, Liverpool. *Hon. Loc. Sec.*

Elected

1859 SLEEMAN, PHILIP ROWLING, F.R.C.S., 11, Redcliffe parade west, Bristol.

1860 SLINN, WILLIAM SAMUEL, Ampthill, Beds.

1861 SLOMAN, SAMUEL GEORGE, Farnham, Surrey.

1861 SLYMAN, WILLIAM DANIEL, 9, Wellington road, Kentish town, N.W.

1860 SMART, THOMAS TOVEY, L.R.C.P. Edinb., South Villa, Bedminster, Bristol.

1859 SMILES, WILLIAM, M.D., Physician to the Royal General Dispensary, St. Pancras; 43, Bedford square W.C.

1860 SMITH, CHARLES CASE, F.R.C.S., Consulting Surgeon to the Suffolk General Hospital; Bury St. Edmund's, Suffolk.

1861 SMITH, JOHN BRUMBY, 17, St. James's terrace, Liverpool.

1860 SMITH, JOHN, Coseley, near Bilston, Staffordshire.

1860 SMITH, JOSEPH EVANS, Ewias Harold, near Hereford.

1859 SMITH, PROTHEROE, M.D., Physician to the Hospital for Women, Soho square; 25, Park street, Grosvenor square, W.

1859 SMITH, SAMUEL, F.R.C.S.E., Senior Surgeon to the Leeds General Infirmary; Park place, Leeds. *Council*, 1860-62. *Hon. Loc. Sec.*

1859 SMITH, WILLIAM, M.D., Consulting Physician to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1859 SMITH, W. TYLER, M.D., F.R.C.P., Physician-Accoucheur and Lecturer on Midwifery and Diseases of Women and Children to St. Mary's Hospital; 7, Upper Grosvenor street, W. *Treasurer & Vice-Pres.* 1859-60. *Pres.* 1861-62.

1860 SMITH, THOMAS, Crawley, Sussex.

1860 SNELL, EDMUND, 20, Stepney green, E.

1860 SNOW, JOHN ELLIOT, Walton, near Ipswich.

1859 SOMERVILLE, CHARLES, L.R.C.P., Bloxwich, Walsall, Staffordshire.

1859 SPENCER GEORGE, 1, Horbury terrace, Notting hill, W.

1860 SPENCER, LAWRENCE, M.D., 129, Church street, Preston, Lancashire.

1859 SQUIRE, WILLIAM, 6, Orchard street, Portman square, W.

1859 STANTON, JOHN, M.D., 9, Montagu square W.

1860 STEDMAN, ROBERT SAVIGNAC, Sharnbrook, Bedfordshire.

Elected

1860 STEELE, JAMES, M.D., Miles Platting, Manchester.

1860 STEPHENS, JOSEPH, L.R.C.P. Edinb.; 4, Bishop's road, Bayswater.

1859 STONE, JOSEPH, M.D., 84, Bloomsbury, Oxford street, Manchester.

1860 STONE, THOMAS, F.R.C.S.E., Res. Surg. to Christ's Hospital.

1859 STOWERS, NOWELL, 30, Newington place, Kennington, S.

1859 STUTTER, FREDERICK AUGUSTUS, Farnboro' House, Upper Sydenham, Kent, S.

1860 SUCKLING, CORNELIUS BENSON, M.D., Surgeon-Accoucheur, Queen's Hospital, Birmingham; St. Mary's square, Birmingham.

1860 SUMPTER, WALTER, M.D., Clay-next-the-Sea, Norfolk.

1860 SUTCLIFFE, WILLIAM, Staleybridge, Cheshire.

1859 SUTTON, JOHN MAULE, M.D., Tenby, Pembrokeshire.

1859 SWAYNE, JOSEPH GRIFFITHS, M.D., Physician-Accoucheur to the Bristol General Hospital; Clifton, Bristol. *Council*, 1860-61. *Vice-Pres.* 1862. *Hon. Loc. Sec.*

1860 SWEETING, GEORGE BACON, M.R.C.P., Lynn Regis, Norfolk.

1859 SYDENHAM, JOHN PUDSEY WELCHMAN, Islip, Oxon.

1860 SYKES, RICHARD, Drighlington, near Leeds.

1859 SYMONDS, FREDERICK, F.R.C.S.E., Surgeon to the Radcliffe Infirmary; 32, Beaumont street, Oxford. *Council.* 1862. *Hon. Loc. Sec.*

1861 SYNNOT, ROBERT, M.D., 16, Eaton terrace, Eaton square, S.W.

1860 TAILER, GEORGE WASHINGTON, Bucklesham, near Ipswich, Suffolk.

1861 TANNER, JOHN, Jun., L.R.C.P. Edinb.; Gloucester House, Ledbury, Herefordshire.

1859 TANNER, THOS. HAWKES, M.D., F.L.S., Assistant-Physician for Diseases of Women and Children to King's College Hospital; 9, Henrietta street, Cavendish square, W. *Hon. Sec.*, 1859-62.

1859 TAPSON, ALFRED JOSEPH, M.B.Lond., 35, Gloucester gardens, Westbourne terrace, W. *Council*, 1862.

1859 TAYLOR, CHARLES, M.D., 4, Bethel place, Camberwell, S.

1859 TAYLOR, DAVID, 2, Kennington row, Kennington park, S.

1859 TAYLOR, EDWARD, Clapham common, S.

1860 THELWALL, WILLIAM, Farndon, Chester.

Elected

1860 THOMAS, FREDERICK, M.D., Tower terrace, Upper Norwood.

1859 THOMAS, J. HENRY, M.D., Physician-Accoucheur to the Royal General Dispensary, St. Pancras; 22, Pentonville road, N.

1860 THOMAS, RICHARD, Menai Bridge, Anglesea.

1860 THOMPSON, MOSES DAVENPORT, F.R.C.S.E., Staleybridge, Cheshire.

1860 THORNE, GEORGE LEWORTHY, M.D., Holcombe Regis, Devon.

1860 THORNHILL, DAVID CLARKE, Atherstone, Warwickshire.

1860 TIFFEN, ROBERT, Wigton, Cumberland.

1859 TILT, EDWARD JOHN, M.D., Consulting Physician to the Farringdon General Dispensary; 60, Grosvenor street, W.

1859 TIMES, HENRY G., 4, Thayer street, Manchester square, W.

1860 TOMKINSON, RICHARD, Cheadle, Staffordshire.

1861 TOMLINSON, ROBERT SHERRATT, Burton-on-Trent.

1860 TORBOCK, THOMAS REDDISH, M.D., 30, Skinnergate, Darlington.

1859 TRAER, JAMES REEVES, F.R.C.S., 47, Hans place, Sloane street, S.W.

1859 TROUNCER, JOHN HENRY, M.D., 6, Mount street, Grosvenor square, W.

1860 TUKE, JAMES KINGDON, 1, Devonshire place, Brighton.

1859 TULLOCH, JAMES STEWART, M.D., Surgeon to the Westbourne Dispensary; 1, Pembridge place, Bayswater, W.

1861 TURNER, RICHARD, School hill, Lewes, Sussex.

1861 TWEED, JOHN JAMES, jun., 14, Upper Brook street, W.

1859 VAUDIN, CHARLES, L.R.C.P. Edinb., Physician to the Jersey General Dispensary; 60, New street, St. Helier's, Jersey.

1860 VARENNE, EZEKIEL G., Kelvedon, Essex.

1860 VINCENT, PATRICK, Wells-next-sea, Norfolk.

1860 WADE, HENRY THOMAS, Trinity terrace, Derby.

1859 WAITS, JOSEPH, 9, Upper Worth street, Poplar, E.

1860 WAKEMAN, PETER RYDER, Bryn Rhûs, Crickhowel, Brecknockshire.

1860 WALES, THOMAS GARNEYS, Jun., Downham, Norfolk.

1859 WALLER, CHAS., M.D., Obstetric Physician and Lecturer on Midwifery to St. Thomas's Hospital; 9, Finsbury square, E.C. *Vice-Pres.* 1859. (*Deceased.*)

Elected

1859 WALLER, JOHN TURPIN, Flegg Burgh, Norfolk.

1859 WALTON, THOS., 21, Charlotte street, Kingston-upon-Hull, Yorkshire.

1859 WANE, DANIEL, M.D., 20, Grafton street, Bond street, W.

1859 WARDEN, CHARLES, M.D., 39, Temple street, Birmingham.

1860 WATERWORTH, THOMAS HENRY, Surgeon to the Surrey Dispensary; 5, Bengal place, New Kent road.

1860 WALKER, THOMAS HOUGHTON, M.D., Tolleshunt D'Arcy, Kelvedon, Essex.

1860 WALKER, WILLIAM HENRY, L.R.C.P. Edinb.; Aldborough, near Darlington, Yorkshire.

1860 WARD, JOSEPH, Hill House, Epsom, Surrey.

1860 WARD, JOHN, Penistone, Sheffield, Yorkshire.

1859 WATSON, SAMUEL, F.R.C.S. Ed.; Cottingham, Hull.

1861 WATTS, GEORGE HENRY, Thatcham, near Newbury, Berks.

1859 WEBB, J. CRASKE, M.D., 23, Grosvenor street west, Eaton square, S.W.

1859 WEBB, HENRY SPEAKMAN, Welwyn, Herts.

1859 WEBSTER, GEORGE, Peckham Rye, S.E.

1860 WELCHMAN, CHARLES EDWARD ELLIOT, Bore street, Lichfield, Staffordshire.

1859 WELLS, T. SPENCER, F.R.C.S.E., Surgeon to the Samaritan Free Hospital for Women and Children; 3, Upper Grosvenor street, W. *Council*, 1859.

1859 WEST, HENRY REGINALD, M.D., Harpenden, St. Alban's, Herts.

1859 WEST, ROBERT UVEDALE, M.D., Alford, Lincolnshire. *Council*, 1859. *Vice-Pres.* 1860-61-62.

1859 WESTMACOTT, JOHN GUISE, M.D., Medical Officer to the Paddington Provident Dispensary; 10, St. Mary's terrace, Paddington, W.

1860 WESTON, SPENCER, Carshalton, Surrey.

1860 WHEELER, DANIEL, Chelmsford, Essex.

1860 WHITE, FREDERICK GEORGE, L.R.C.P. Edinb.; Erchfont, near Devizes, Wilts.

1860 WHITE, WILLIAM, Rajshahy, Bengal; United Service Club, 14, St. James's square, S.W.

Elected

1859 WHITEHEAD, JAS., M.D., Physician to the Manchester Clinical Hospital; 87, Mosley street, Manchester. *Council*, 1859-60-61.

1859 WILKIN, HENRY, 39, Connaught terrace, Hyde Park, W.

1861 WILLIAMS, DAVID JOHN, M.D., *Hon. Loc. Sec.*, Queenscliff, Geelong, Victoria, Australia.

1860 WILLIAMS, JOHN, L.R.C.P. Edinb., Llanerchymedd, Anglesea.

1861 WILLIAMS, JOHN, Trosnant Lodge, Pontypool, Monmouth.

1860 WILLIAMS, PETER MAURICE G., Tyllwyd, near Trevine.

1860 WILLIAMS, ROBERT HANKINSON, L.R.C.P. Edinb.; Great Eccleston, near Garstang, Lancashire.

1860 WILLS, JOHN, M.D., St. Helier's, Jersey.

1861 WILMSHURST, GEORGE, Great Hampton street, Birmingham.

1860 WILSON, ROBERT JAMES, L.R.C.P. Edinb.; St. Leonards-on-Sea, Sussex.

1859 WILSON, JONATHAN, F.R.C.S.E., 92, Bloomsbury, Oxford road, Manchester.

1859 WILSON, JAMES GEORGE, M.D., Physician-Accoucheur to the Lying-in Hospital and Dispensary; 143, Hope street, Glasgow.

1860 WINTERBOTHAM, JOHN, Castleton, near Sheffield, Derbyshire.

1860 WISEMAN, WILLIAM WOOD, Springstone House, Ossett, near Wakefield, Yorkshire.

1859 WITTEN, EDWARD W., 72, St. John street road, Clerkenwell, E.C.

1860 WOOD, WILLIAM JAMES, Brightwaltham, Wantage, Berks.

1859 WORSHIP, J. LUCAS, Riverhead, Sevenoaks, Kent.

1860 WRIGHT, GEORGE, Middleham, W. Bedale, Yorkshire.

1861 YOUNG, WILLIAM BUTLER, 5, Castle street, Reading, Berks.

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ADVERTISEMENT.

THE SOCIETY is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, or for those contained in the abstracts of the discussions which have occurred, at the Meetings during the Session.

OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1861.

Annual General Meeting, January 2nd, 1861.

Dr. TYLER SMITH in the Chair.

This was the Second Annual Meeting of the Society.

A Ballot took place for the appointment of Officers for the ensuing year. It was declared by the President that the following gentlemen were duly elected:

Honorary President.—Sir Charles Locock, Bart., M.D.

President.—W. Tyler Smith, M.D.

Vice-Presidents.—C. M. S. Babington, F.R.C.P.; J. Hall Davis, M.D.; Robert Dunn, Esq., F.R.C.S.; Francis Elkington, M.D., Birmingham; A. B. Granville, M.D., F.R.S.; R. Uvedale West, M.D., Alford, Lincoln.

Treasurer.—Henry Oldham, M.D.

Honorary Secretaries.—Graily Hewitt, M.D.; T. H. Tanner, M.D.

Other Members of Council.—Robert Barnes, M.D.; W. Bloxam, M.D.; W. D. Chowne, M.D.; Joseph Cholmondeley, Esq.; Charles Drage, M.D., Hatfield; George D. Gibb, M.D.; Thomas F. Grimsdale, Esq., Liverpool; Francis Seymour Haden, Esq., F.R.C.S.; Robert Hardey, Esq., Hull; George Harley, M.D.; John Braxton Hicks, M.D.; Francis Hird, Esq., F.R.C.S.; J. C. Langmore,

M.B.; W. O. Priestley, M.D.; C. H. F. Routh, M.D.; Samuel Smith, Esq., F.R.C.S.E., Leeds; Joseph G. Swayne, M.D., Bristol; J. Whitehead, M.D., Manchester.

The Auditors' Report was then read. From this it appeared that, after payment of all the expenses of the Society up to December 31st, 1860, a balance remained in the Treasurer's hands amounting to £291 5*s*. The report was unanimously adopted.

ADDRESS

OF

THE PRESIDENT.

Gentlemen:—It is my first duty to thank the Fellows of the Society for the distinguished honour they have conferred upon me, and to assure them that my best energies shall be given to the duties of the office to which I have been raised. I make no apology for doing this in the briefest possible manner, because I know that at the present time but one thought and one feeling must pervade the meeting, in regard to the great loss we have sustained by the unexpected death of our late President, Dr. Rigby. For two years this eminent physician filled the presidential chair with ability and credit, and this evening we were prepared to have suspended the law which limits the tenure of office to two years, in order that we might as a mark of respect, elect him for the third time as our chief. But the ways of Providence have ruled it otherwise, and this day, when we should have met to do him honour, his sorrowing relatives and friends have consigned his remains to the silence of the tomb.

One of the principal features in the annual address from the chair, is, to draw the attention of the Society, in memoriam, to the Fellows who have been lost to the Society by death during the departed year. You will all remember in what a feeling and Christian spirit this was done by our late President on the occasion of the decease of his friend Dr. Montgomery, at the last annual meeting. If I cannot

on the present occasion do justice to his own memory, I must plead the suddenness and unpreparedness of the occasion as my excuse, and crave your indulgence.

The name of Dr. Rigby is historical in Obstetric Medicine. The elder Dr. Rigby made himself a name and reputation by being the first to draw distinctly, definitely, and in such a way as to command general assent, the attention of the profession, to the differences which exist between avoidable and unavoidable hæmorrhage, and to their appropriate modes of treatment. He did not merely associate his name with placenta prævia, but throughout a long career maintained a high position as an obstetric teacher and practitioner. It may be supposed that when Dr. Rigby, of Norwich, devoted his son to his own department of the profession, no means were spared to make him, by education and training, fitted for the most successful career which midwifery could offer. Though the father did not live to superintend it, the whole life of the son was an example and proof of this. His studies were assiduously carried on in the great schools of Edinburgh, Dublin, Berlin, Heidelburg, and lastly in London, and on commencing his profession as an accoucheur in this metropolis, he obtained position and practice at an age when men are generally battling in the first struggles of medical life. His professional biography is best exemplified by the various positions he held, and by his published works, and these I may be allowed to recall to your recollection.

His first appearance as an author was as the translator of Naegele's celebrated essay, on 'The Mechanism of Labour,' and it is with this subject that his name will chiefly be associated as an obstetrician. He had the honour of introducing this great advancement in obstetric knowledge into British practice, and throughout his life he remained its able exponent in this country. He was an ardent admirer of William Hunter, whose work 'On the Anatomy of the Gravid Uterus' he edited and republished. He was also greatly devoted to the record of cases, as one of the best and surest means of promoting obstetric knowledge. The Fellows will remember with what warm feelings he eulo-

gised the cases of Mauriceau, Mauquest de Lamotte, Giffard, and Smellie, as being of more solid and enduring nature than any systematic treatises, and how he looked forward to the growing usefulness of this Society as the grand depositary of the histories of individual cases of difficulty and disease.

His 'System of Midwifery,' which appeared as part of Dr. Tweedie's 'Library of Medicine,' is well known, and I may mention that for many years I used it as a text book for my lectures, in preference to any other. Dr. Rigby had a large experience in the diseases of women. In his writings on this subject, and in practice, he very strongly gave the preference to general and constitutional treatment as opposed to local measures. This is shown in his work on 'Dysmenorrhœa and other uterine affections, in connection with derangement of the Assimilating Functions,' and in his later work on 'The Constitutional Treatment of Female Diseases.'

His success as a practitioner has been already alluded to; and although he has died in what, for a physician, must be considered the prime of life, his early attainment of a large amount of public confidence gave him a long and prosperous career. He was in succession Assistant-physician and Physician to the Westminster General Lying-in Hospital. He was also Lecturer on Midwifery, first at St. Thomas's Hospital, and then at St. Bartholomew's Hospital, during a long series of years. From the year 1841 to 1860 he held the important post of Examiner in Midwifery in the University of London. On the first steps being taken for the formation of the Obstetrical Society of London, he early and cordially signified his willingness to join and assist it. He presided at the public meeting at which the Society was inaugurated, and was unanimously elected its first President in 1859. You have been witness to the mode in which the public portion of his duties were performed, but in the multifarious work belonging to the organization of the Society, the meetings of councils and committees, his time and his zealous personal services were always ready. His warm interest in our success was continued to the last, and on his death-bed he bequeathed

to the Society the whole of the obstetric portion of his library; a gift, the value of which we must all appreciate. I had not myself the honour of Dr. Rigby's private friendship, but in my intercourse with him in relation to the business of the Society, the quality which struck as most remarkable in him, was a child-like simplicity and directness of purpose rarely met with in those who have had much experience of the world. Before concluding these obituarial remarks, I have been directed by the Council to put before the meeting the following resolution of condolence and sympathy with the family of our deceased President, in which I am confident the Fellows will heartily and unanimously concur.

"That this Meeting being informed of the death of Dr. Edward Rigby, the first President of the Obstetrical Society, is desirous of expressing publicly its great regret for the loss the Society and the profession have thereby sustained. The Fellows of the Society desire to record in the warmest manner their grateful recollection of his unvarying ability, courtesy, and urbanity while presiding over their meetings."

In one respect the life and death of Dr. Rigby offer a warning to his professional brethren. He died at the comparatively early age of fifty-six, and during a period of thirty years is said by those who knew him well, never to have taken a regular holiday, until the last autumn, when he went to St. Petersburgh, to visit some relatives. He was apparently of great strength of body, and would seem to have been marked out by nature for longevity. His premature death must in great measure be attributed to incessant attention to the duties of practice, in such a degree as to leave little time for health or recreation. This he himself saw, when too late. Surely in matters of personal conduct and endurance, medical men ought to be the exemplars of the rest of the community, and a certain amount of daily care ought to be given to the important subject of self-preservation. We ought to be more alive than others, to all the various points of hygiene, and more ready to detect in ourselves, and ward off, the small beginnings of disease and failing bodily energies.

Yet it is to be feared that familiarity with these things, and constant occupation with matters of life and death, make us as careless, even more careless, of the means of sustaining health, than those who are wholly ignorant. Such a death as that we have been considering, ought to impress strongly upon all our minds the important fact that health is a primary duty, and that it is especially a duty of the medical practitioner in his own person. We ought to, and no doubt might, be the longest lived persons in the community, but this is notoriously not the case.

We are as yet a young Society, and the only other Fellow whose decease we have to record during the year is Mr. Edward Barber, of Stamford, Lincolnshire, a highly respected general practitioner.

Happily we can turn from the loss of individuals to the general prosperity of the Society, which, I trust, may long remain in perennial vigour. The year has witnessed a large accession to our strength, the number of new fellows being 125. Our first volume of 'Transactions' has been given to the world, and has been welcomed by the medical press and the professional public, as fulfilling the expectations which had been held respecting it, and establishing the scientific character of the Society. Besides the 'Transactions,' a Register of Obstetric Cases has been published under the auspices of the Society, which promises to be a great boon, inasmuch as if it should be generally adopted, the large mass of experience drawn together from different sources, in our 'Transactions,' will have the advantage of conformity of plan, and thus lead to results which never could be obtained from individual records, without a common aim or purpose. In many of the large cities and towns, Local Secretaries have been appointed, and will probably prove of service in advancing and extending the operations of the Society. During the past year there has been a movement, originating with the Royal Medical and Chirurgical Society, and having for its object the amalgamation of the principal medical societies of the metropolis. We have taken part in the meetings which have been held with this object, but as yet the matter is only in its preli-

minary stage. In conclusion, I can only congratulate the Society upon its present condition and prospects, and indulge in the fervent hope that its prosperity and usefulness may increase in the coming, and in all future years.

The following biographical data are condensed from the accounts of the life of Dr. Rigby which were published after his decease.

Dr. Rigby was born with a twin sister at Norwich, August 1st, 1804. His mother was of the ancient family of the Palgraves, Admiral Sir Edward Parry was his cousin. He was chiefly educated at the grammar school of his native city, under Dr. Valpy, and among his school-fellows were Sir Archdale Wilson, the hero of Delhi, and Sir James Brooke, the Rajah of Sarawak. His first predilection was for the sea, but his entrance upon professional studies took place at the Norfolk and Norwich Hospital, at the age of seventeen. Soon after this, his father died at a mature old age. The son then removed from Norwich to the University of Edinburgh, where he remained till 1825, in which year he took his degree, on his twenty-first birthday. He then studied anatomy in Dublin for a short time, and in the autumn of 1826 repaired to Berlin. Here he remained a year, during which he gave his attention almost exclusively to midwifery. From Berlin he went to Heidelburg, attracted, no doubt, by the fame of the elder Naegele. On returning to England, he became a house pupil at the Westminster Lying-in Hospital, and in the same year published his translation of Naegele. 1831 he became a licentiate of the College of Physicians, and in the same year was appointed joint lecturer on midwifery at St. Thomas's Hospital. He was also, on the retirement of Dr. Ferguson, elected assistant physician to the Westminster Lying-in Hospital, and then physician. He retained his connection with this institution until about two years ago, when he resigned, because the Committee refused to attend to his remonstrances on the subject of the ventilation of the hospital. He married in 1839, and took a house in New Street, Spring Gardens, having the year before been appointed lecturer on

midwifery at St. Bartholomew's Hospital, which office he held until 1857. In the year 1841 he succeeded Sir Charles Locock, as examiner in the University of London, which office he resigned in 1860. In 1843 he became a Fellow of the College of Physicians. He had always enjoyed moderate health, and was of vigorous frame and stature, but for upwards of a year before his death he had suffered from irritability of the bladder. During the autumn of 1860 he took a six weeks' holiday, and returned from Russia in apparently improved health, but shortly afterwards a gradual decline of health and strength became apparent. In December, he became so much worse as to leave little hope of his recovery, and on December 27th he died at his residence in Berkeley Square. The primary disease was found to be carcinoma of the bladder, the immediate cause of death being congestion of the lungs, and suppression of the renal secretion. His sufferings for the last few days were extreme, but his resolution and patience throughout were unfluctuating. Dr. Burrows and Mr. Skey, with several other medical friends, were unremitting in their attentions to him. He was twice married, and leaves behind him three daughters. On the 2nd of January, 1861, his remains were interred at the cemetery at Kensal Green.

Dr. Rigby was a member of the Imperial and Royal Society of Physicians of Vienna, of the Royal Medical and Chirurgical Society of Berlin, and of the Swedish Society of Physicians, and a corresponding member of the American Institute. He was also a Fellow of the Linnean Society of London.

At the conclusion of the President's address, the motion respecting Dr. Rigby was put to the meeting, and carried unanimously.

It was further resolved:—

"That the foregoing resolution be entered in the minutes of the Society's 'Proceedings,' and that the Honorary Secretaries be directed to forward a copy of the same to the relatives of the deceased, expressing, at the same time, the sympathy of the Society with their bereavement."

January 2nd, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—47 Fellows and 2 visitors.

The following gentlemen were duly elected Fellows of the Society:—W. Butler Young, Esq., Reading; Theodore H. S. Royle, Bicester, Oxon.

Dr. Madge exhibited—

"The contents of the Pelvis taken from a woman who had died of Uterine Hæmatocele."

[A full account of the history of this case will be found in the report of the meeting held in March subsequently.]

A CASE OF FIBROUS TUMOUR OF THE UTERUS.

By T. H. Tanner, M.D., &c.,

ASSISTANT-PHYSICIAN FOR THE DISEASES OF WOMEN AND CHILDREN TO KING'S COLLEGE HOSPITAL.

The case which I am anxious to bring under the notice of the Fellows of the Obstetrical Society has been so long under my care, and has so often been the cause of much anxious consideration, that its details may possibly seem to me to have a greater importance than they really merit. But however this may be, I cannot help thinking that there are at least two or three points in the following history which deserve attention; and therefore I shall relate the chief features of the case, condensing the facts from the record in my note-book.

Mrs. H—, æt. 34, has been married seven years; applied to me on the 6th June, 1855. She says that "she thinks she has been pregnant twice, but on both occasions has

miscarried at the end of a few weeks." Always enjoyed good health until the last two years. Three years ago she first noticed that the catamenia were more abundant than she had been accustomed to, but no remedies were used until twelve months since, when she began to have attacks of flooding. There has been scarcely any interval between these attacks for the last nine months, and for the past four months she has not been free from a discharge of blood for a single day. She is a fine, tall woman, and very stout; but of course the hæmorrhage has weakened her considerably, and she looks now quite exsanguine. There is no history of any particular disease in her family, and she is unable to account for her present sufferings.

On a careful investigation a few days afterwards, I found her very feeble and nervous. The pulse was weak, and frequent attacks of palpitation of the heart were complained of. Auscultation of the heart detected a systolic, anæmic, bellows-sound; while a venous bruit was heard in the neck. The abdominal parietes were loaded with adipose tissue, so that it was difficult to learn the condition of the viscera; but there was greater dulness over the hypogastric region than elsewhere, and such a sense of resistance as would be communicated by a solid tumour. On examining per vaginam, the uterus was found very high up, so that the cervix was reached only with difficulty. The os uteri was seen by a long speculum to be very small, so that a small bougie could not be passed through it. I told her that from my examination I did not consider she had ever been pregnant; and she acknowledged that she thought it very probable that clots of blood had been mistaken for the result of gestation. She told me that occasionally the uterine discharge was like dirty water, and of a very offensive smell. She had also had excellent medical advice without deriving any benefit. Appetite was very bad, so that she quite loathed food. The diagnosis which I made was to the effect that there was some small foreign body in the uterus, but what the exact nature of this substance might be was doubtful; while there was also some tumour—probably ovarian or uterine—

occupying the lower part of the abdomen. She was ordered to keep very quiet in bed, to have plenty of nourishment and stimulants, and to take a scruple of ergot of rye every six hours.

Under this treatment she slowly improved, and in about ten days the bleeding ceased. Quinine and acid mixture was then given, with a full animal diet, and she went on until the catamenia again appeared on the 9th July. Astringents were immediately commenced, and all discharges stopped in ten days.

Now it would serve no useful purpose to give even a monthly report of this case; for all the important facts of it from this time, July, 1855, until the patient's death, on Friday, 28th December, 1860, can be summed up in a few sentences. The flow of blood from the uterus was always checked with great difficulty; and generally a few days after it was controlled, it was again excited by the return of the catamenial period. Astringents of all kinds were freely tried on various occasions, but at no one time did they effect any good whatever. Amongst the remedies which proved useless, it may be as well to mention the acetate of lead, ergot of rye, the mineral acids, gallic acid, cinnamon, iron alum, the sesquichloride of iron, &c. Opium was of no value, and the infusion of digitalis did harm. Neither was any benefit derived from galvanism, or from the application of ice, or from plugging the vagina with cotton wool. With regard, however, to the tampon, it may be mentioned that the patient was so irritable, and the vagina was so sensitive, that she never could bear an efficient plug for more than twelve hours, even though opium was administered to diminish the uneasiness. The only agent which had any effect in checking the hæmorrhage was mercury; and to this agent Mrs. H— owed her life on several occasions. It is important to remember, that the good effects of this mineral were obtained as soon from the bichloride of mercury, in doses of the sixteenth of a grain every six hours, as from calomel given to the extent of producing salivation. During the last few months of the year 1860, however, the patient became extremely exhausted by her long and depressing

illness; while at the same time she suffered much from irritability of the stomach, so that there was sometimes an inability for several days to take stimulants and nourishment by the mouth. She gradually became weaker and weaker, but did not lose flesh; and at length died on December 27th, 1860, from pure anæmia.

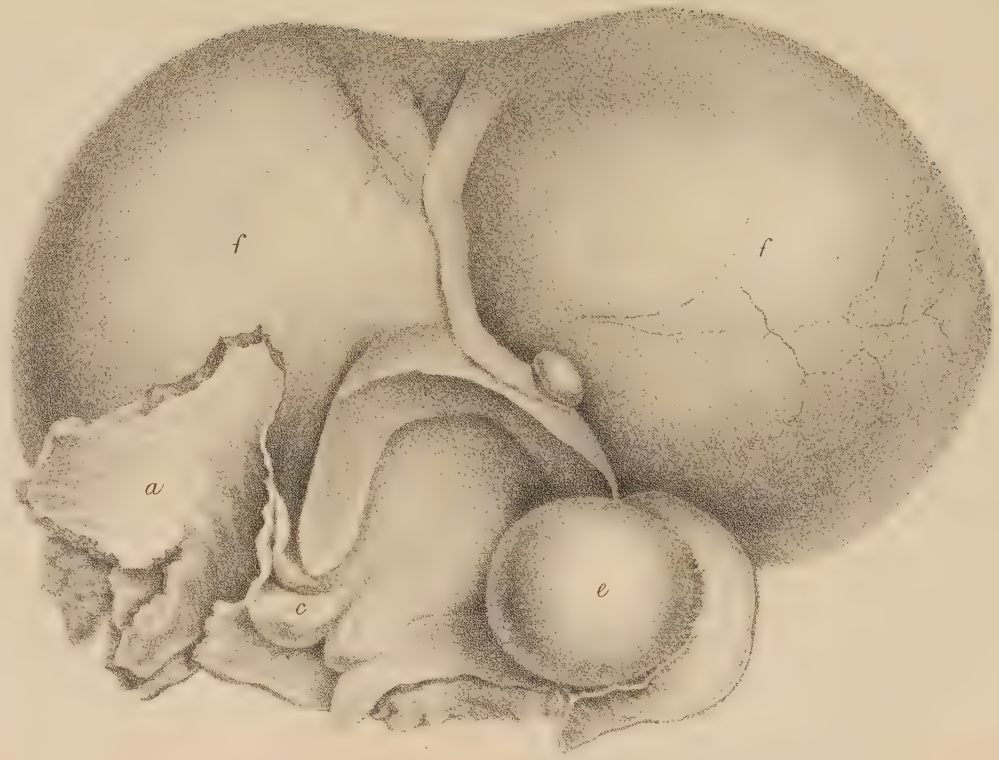
At the *autopsy*, a few hours after death, the body was found quite bloodless. The adipose tissue on the abdominal walls was two inches in thickness, while the vaginal labia looked like large folds of fat. On opening the abdomen the lower part of the cavity was seen to be occupied by an oval cyst nearly nine inches broad, which was apparently formed under the peritoneum, stretched upwards from the fundus uteri; it contained about a pint and a half of urinous-looking fluid. There was also a smaller cyst, holding two drachms of serum. By means of the large cyst (which rested upon the expanded wings of the iliac bones) the uterus was kept out of the true pelvis. On examining the cavity of the womb, it was found to contain a fibrous tumour, about the size of a very small orange cut in half. The tumour was seated in the posterior wall of the uterus, its base or attachment being its broadest part, while it projected into the uterine cavity for fully three quarters of an inch. The other organs of the body were healthy.

On afterwards making a slight dissection of the cyst, it was made out that the larger one had in all probability commenced in the right broad ligament, and had gradually distended it along with the Fallopian tube. On the left side the Fallopian tube was found dilated, and containing some pus, which did not appear of recent formation. The preparation has been put up in the museum of University College by Dr. Harley.

DESCRIPTION OF PLATE I.

The drawing exhibits the cysts, with the cavity of the uterus laid open, showing the tumour.

a. Portion of the bladder; *b.* Urethra; *c.* Os uteri; *d.* Interior of uterus; *e.* Fibrous tumour; *ff.* Cysts.



Dr Westmacott del. et lith.

W. West imp.

ON THE TREATMENT OF SICKNESS IN UTERINE INFLAMMATION AND DISEASES OF MENSTRUATION.

By E. J. Tilt, M.D., M.R.C.P.,

CONSULTING-PHYSICIAN TO THE FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY.

Amongst the uncommon symptoms of uterine inflammation none are so distressing as long-continued nausea, even if unaccompanied by repeated vomiting. It lowers the strength, by depriving patients of their usual amount of food, and produces a permanent state of nervous irritability and despondency. Those who can bear pain with unflinching fortitude will burst into tears, while asking for some new remedy for this distressing ailment, which has even caused the thoughts of several of my patients to dwell on suicide.

During the last two years, I have met with an unusually large number of such cases, but if I draw your attention to the subject, it is not that I have new remedies to propose, but with the conviction that I shall derive valuable suggestions from the experience of many learned members of this Society.

Sickness, as a symptom in uterine pathology, is based upon its frequent occurrence in many acts of the function of generation. It will suffice to remind you that sickness is the most common sign of pregnancy; that it occasionally occurs during sexual congress, as a sign of conception, in the midst of parturition, and during its monthly prototype—menstruation. Furred tongue, flatulency, acidity, and slight nausea, are frequent accompaniments of menstruation; and, on extensive inquiry, I find that vomiting only accompanies first menstruation in about 9 per cent. of cases, that it is a symptom of fully established menstruation in 7 per cent., and of its cessation in 12 per cent. It being clearly understood, that, in these cases, I was unable to

detect any disease in the ovario-uterine organs, and that I therefore referred the sickness to some untangible predisposition of the nervous system. Mucus, or acid mucus, or mucus mixed with bile is brought up, and vomiting may be repeated during the whole menstrual period, but it generally takes place during the first part of the menstrual epoch, and during the first part of the day. At cessation, vomiting is generally associated with biliary derangement of an obstinate character. If sickness be very severe and long continued during menstruation, uterine disease may be suspected, as in a case which will be subsequently given. Sickness may only accompany menstruation for a certain number of months, or years, but I have known it last from the date of early marriage until cessation, and to recur from the first to the last menstruation. A preponderance of the biliary apparatus is certainly a predisposing cause to sickness at menstruation, but in some of the worst cases I have attended there was no sign of biliousness; the tongue was clean, and no bile was vomited, so the sickness could only be considered as a reflex symptom. It is almost needless to remind accomplished practitioners that sickness frequently accompanies *diseased* menstruation; amenorrhœa, with or without chlorosis; dysmenorrhœa, whether it depends upon mechanical contraction of the os uteri, or on irregular nervous action; and menorrhagia sometimes.

Vomiting accompanying *diseased menstruation* is frequently severe and long continued, and resembles so much the sickness attending inflammatory affections of the womb, that I shall treat of both at the same time. Sickness may accompany all uterine affections, and is independent of the severity of the affection or the size of an organic growth. It is frequently unassociated with cancer of the womb, or with large fibrous tumours of this organ, while it may accompany a small one, to a distressing degree, independently of peritonitis, which will be an additional cause of sickness. This symptom is very rare in the inflammatory diseases of the mucous membrane lining the neck of the womb, whether it be excoriated or ulcerated; while on the contrary, it is frequently observed,

when the body of the womb is diseased and in internal metritis. Thus, out of fifteen patients now under my care, who suffer intensely from nausea and vomiting, I attribute it to chronic inflammation of the body of the womb in nine cases, in which there is an enlarged womb, the seat of constant pain, increased by the patients' movements and by pressure of my finger, with brown or purulent discharges before or after menstruation, which is either too abundant or scanty, and of a brown or green colour; the neck of the womb, the os uteri, and the vagina being either sound or not sufficiently diseased to account for these symptoms. In one case there is an obstinate inflammatory state of the lining membrane of the neck of the womb, with purulent discharge, although ulceration of the neck of the womb has been cured. In another, a moderate sized fibrous tumour of the womb, at the change of life, is the cause of vomiting. In a third, most distressing nausea and vomiting is evidently associated with relapsing inflammation of the neck of the womb, which is only a part and portion of a general cachectic condition. In a fourth, sickness is associated with hysteralgia, enteralgia, and other anomalous nervous symptoms. In a sixth case nausea is distressing in a highly nervous lady, in whom the generative organs are so strangely constituted that sexual intercourse, seldom repeated, during two months, developed an exasperated state of irritability of the genital organs which has lasted two years, and puzzled several other practitioners besides myself, and is now slowly subsiding.

Nausea is much more frequent than vomiting. The patients loathe food, and even the idea of it, and refuse food, unless it be forced upon them. Nausea is more troublesome in the morning, and will often go off after breakfast or dinner. It is increased by worry, excitement, the fatigue of dressing, or by moving about.

Mrs. A— complains of habitual nausea; worry, exertion, even taking a little more than usual, will bring on vomiting. Lying on her back increases the nausea; she sleeps on her side, and if perchance she turns on her back vomiting will

awake her. In this case nausea is always worse a week before the menstrual period, and much better the week after the subsidence of the flow.

I have described the more frequent forms of the symptoms; but in two out of the fifteen cases I have in view vomiting was incessant, not only the vomiting of mucus but of almost all the food taken, reducing the patient to a perfect skeleton.

In a patient of Sir Charles Locock, whom I occasionally attended when he was out of town, sickness lasted for eight years, with scant intermission, ultimately causing death from exhaustion. In this case I am induced, like other practitioners, to attribute the sickness, which came on suddenly, in the midst of good health, to a small, fibrous tumour developed in the body of the womb, although Sir Charles Locock considered it doubtful, as the patient was a confirmed opium eater, to a very large extent. Another patient vomited almost all the food taken for a whole year. In a case of internal metritis sickness occurred only at the menstrual periods for a few hours, or for one, two, or even three days, during which time the patient continued vomiting, with from only five to ten minutes' interval of repose or sleep.

Sickness accompanying uterine inflammation is a nervous symptom, generally independent of biliousness or dyspepsia. There is nothing unusual about the tongue in nine out of the fifteen patients. In two it is cleaner than usual. The tongue is very much furred in the patient suffering from enteralgia. Five suffer occasionally from heartburn or acidity, two are decidedly bilious, having had jaundice several times, and one is subject to the outpouring of a large quantity of bile once a month, or even more frequently, but in all these patients sickness is often distressing when they are neither dyspeptic nor bilious. I have noticed that those who suffer most from sickness in pregnancy are more likely to be affected by it when troubled by uterine affections.

Having thus sketched the pathology of sickness, caused by uterine affections and diseased menstruation, I now come to its treatment. The received adage, "sublatâ causâ, tol-

litur effectus," applies with full force, and the essential point in the treatment of sickness dependent on uterine affections is to cure them, and the pelvic peritonitis by which they may be complicated; but this is often a long and tedious process, and, in the mean time, the patient anxiously calls for, at least, speedy relief from sickness. It may accidentally occur that the means used for one end, may fulfil the other; thus I have repeatedly observed that leeches applied to the neck of the womb for the cure of its inflammation, produced a marked decrease of nausea or sickness. I have seen it also suddenly stopped by the application of Potassa Fusa cum Calce to the neck of the womb. The replacement of an anteverted womb by a hypogastric bandage has been known to check vomiting. These are exceptional cases, which justify the trial of active measures. Another indication is to assuage uterine pain by the external and internal application of opiates to the womb. After giving such remedies a fair trial, if unsuccessful they should be discontinued; indeed, all surgical treatment of the womb should be postponed, and even injections and enemata should be avoided as much as possible.

The continuance of a moderate amount of habitual nausea need not, however, interfere with the surgical treatment of uterine disease. It is generally good to preface all remedial measures by a dose of calomel and alterative doses of blue pill, even when there are no marked symptoms of biliousness, for this will often abate the distressing sickness, as in the following case.

Miss W—, æt. 30, is of middling stature, stout, with a puffy face and a florid complexion. Ever since infancy she has been subject to some extensively spread cutaneous affection, and sometimes the mucous membrane of the nostrils pustulates as at present. Menstruation began at eleven, went on freely and well till twenty-one, when she first suffered from disease of the womb. About four years ago, Mr. Price, of Marlborough, suggested that she should consult Dr. Bennet, who found extensive abrasion of the neck of

the womb, with muco-purulent discharge, back pain, sickness, and a very scanty menstrual flow. This uterine affection was evidently part and portion of a cachectic condition of the whole system, for it has repeatedly relapsed, notwithstanding local and constitutional treatment instituted by Dr. Bennet or myself, and well followed out by Mr. Price. Omitting details that do not bear upon the subject of this paper, I will only mention that when I saw Miss W—, on the 15th of November last, the sickness, which had been more or less troublesome ever since the beginning of the uterine disease, was unusually distressing, depressing her spirits, interrupting sleep, and causing her to talk in her sleep. Every morning between three and four o'clock Miss W— is awoke by irritating sensations at the pit of the stomach, she turns about and is very sick, vomiting bile, she then feels nervous sensations in her joints, and is very weak. If she takes tea or any other food, it feels like putting something on a wound. She only vomited once a day, but had nausea all day long. There was no appetite, the tongue was furred, and there was acidity after food. Menstruation was just over and had been scanty. This habitual condition of the menstrual discharge, the frequency of relapses in an unmarried woman, notwithstanding judicious treatment, the continued sickness and the fact that now, when there is no excoriated condition of the mucous membrane, walking, or driving in an easy carriage, will at all times bring on a slight red or brown discharge, leads me to believe that there is a certain amount of inflammation of the lining membrane of the body of the womb, which is placed too high for me to ascertain its size and how far pressure may give pain.

On the 15th November, I ordered six leeches to be applied to the neck of the womb, by which means sickness in this case, had been sometimes relieved. As the patient seemed decidedly dyspeptic, I ordered three grains of calomel with extract of colocynth and a Seidlitz powder the following morning, and twenty drops of liquor potassæ to be taken in a little cold water after meals. On the 17th the

patient was free from nausea, but the sickness was just the same in the morning, so I gave her every night a pill, containing two grains of blue pill and extract of hyoscyamus with one grain of Dover's powder, and another pill composed of three grains of sulphate of quinine and one grain of extract of hyoscyamus. I ordered her to take, every two hours, a teaspoonful of a four-ounce mixture, of which four drachms of tincture of ginger with a quarter of a grain of strychnine were the active ingredients. On the 21st Miss W— had only been sick once in the previous four days, but the irritable feeling about the pit of the stomach remaining, I ordered a belladonna plaster over the part, six instead of three grains of sulphate of quinine a day, and a dessert-spoonful of the strychnine mixture every two hours. This treatment was continued until the 27th, when I learned that there had been no vomiting, but there was still the irritable "sore-wound" sensation at the pit of the stomach; otherwise the patient was better in every respect, and I sent her home, suggesting to Mr. Price to give her a full dose of calomel every three weeks, to continue the sulphate of quinine pills every day, to paint the pit of the stomach with caustic solution of iodine every week, and to keep uterine inflammation in check by vaginal injections.

I will merely mention the minor remedies which are often sufficient to afford relief, such as effervescing drinks, seltzer or soda water and saline draughts, all the more effective for being iced, ice pills and very hot drinks, brandy and other cordials, sal volatile, camphor julep, bitters and astringents, such as columbo, rhatany, tannin. I have given strychnine with advantage, a quarter of a grain with six drachms of tincture of ginger and four ounces of distilled water, a teaspoonful to be taken every one or two hours, and I always advise the patient to take a cup of tea or a little milk to which a teaspoonful of brandy or rum has been added, as soon as possible after awaking, and before getting out of bed. It restores the tone of the stomach, and may, perhaps, strengthen the important ganglionic

centres which lie in close connexion with the stomach. These remedies failing, I try opiates.

The wife of one of the Royal Commissioners for the Great Exhibition was forty-seven years of age when she first consulted me. She married at thirty, and immediately after and ever since the menstrual periods have been accompanied by vomiting. Headache first appeared, and then sickness, which was frequent, during twelve to thirteen hours, whether the menstrual flow was scanty or profuse. There was no uterine disease, and as many of the remedies just enumerated had been fruitlessly tried, I gave one grain of acetate of morphine in a six-ounce mixture, directing two table-spoonfuls to be taken in an effervescing draught, made with citric acid and carbonate of potash, when sickness set in, and to repeat the dose every hour. The patient found two or three doses of this medicine sufficient to stop the sickness at menstrual periods until the change of life took place two years afterwards. Large doses of the same remedy were effectual in the following case, which was under my observation for six years, until the patient quitted London for Malvern.

Mary H—, a dispensary patient, and an ironer by occupation, was nineteen, with dark hair, swarthy complexion, and her mouth often looked as if it had been painted with yellow. She was eminently bilious, for, to use her own expression, "If anything were to upset me, I should go on and be sick for two days." She complained of vomiting during menstruation, the sickness lasting from one to three days, with slight intervals of respite, and with just as much bile, in the last as in the first vomiting. The sickness was accompanied by violent pain in the sacrum. Vomiting was not equally severe at every menstrual period, though it was always worse if during the previous week the patient "felt the bile rising in the mouth." This sickness was often the initial symptom of menstruation; thus she has been repeatedly awoke at night, by a violent fit of sickness, and then

the menstrual flow would make its appearance. This incessant vomiting produced so much debility that during the four or five days following menstruation she was quite unfit for work. She either could not sleep during this period, or else she felt inclined to sleep night and day. The menstrual flow was often retarded and scanty. I gave the patient diluted nitro-muriatic acid in an infusion of cascarilla before meals, ten grains of carbonate of soda after meals, advising three grains of calomel and a black draught to be taken a few days before menstruating. I moreover prescribed two grains of acetate of morphine with two drachms of chloric ether in a six-ounce mixture, telling her to take a tablespoonful in an effervescing draught after being sick, and to repeat the dose after every fit of vomiting until she had finished the medicine. I also ordered small enemata, with sedatives. This treatment was to a certain extent effectual, when, after a few months, severe abdominal pain, back pain, a brown discharge, nausea, vomiting and vulvitis occurred, and on making an examination I found the neck of the womb sound, but the body very painful, and slight pressure caused retching and hysterics. Thus it appeared that, instead of the sickness being merely associated with menstruation, this process caused the sickness, by waking up every month the slumbering embers of chronic inflammation of the body of the womb. I then made the patient rub in mercurial and belladonna ointment to the anterior portion of the abdominal walls, and advised her using acetate-of-lead injections. At times the patient took aloes-and-myrrh pills and citrate of iron in effervescing draughts. Great improvement followed this plan of treatment. The morphine was not, however, uniformly effectual. Thus on rare occasions the whole mixture would not prevent sickness, though it usually made it cease at the end of twenty-four hours. The whole mixture was sometimes taken in five hours without producing sleep, at others she would take the mixture, then sleep, wake to vomit, take the mixture again, sleep, and so on in succession, until the stock was exhausted or the sickness conquered. If the

opiate procured two hours of *continued* sleep, there would be free perspiration, more abundant menstrual flow, and sickness would be lulled for a few hours. Even when the sickness was not speedily stopped, the remedy abated the tormenting pain in the sacrum. The opiate had another good effect, it enabled the patient to get to her work the day after the sickness subsided, instead of her remaining helpless for a few days after every menstrual period. After the first year of this treatment a few doses of the morphine were sufficient to check the sickness.

In another case the patient is frequently able to control sickness by taking, occasionally, a dessert-spoonful of a four-ounce mixture containing one grain of acetate of morphine some of drachm of the diluted hydrocyanic acid in with one Sir James Murray's fluid magnesia. In the case previously described, success was partly due to the opiates given by the rectum, and whenever pain is referred to the womb, it is well to try and subdue it by opiates, applied in various ways in its vicinity, as by liniments and poultices, and to exhibit the same remedies in suppositories, to be introduced either in the vagina or the rectum. I have checked sickness by the application of a grain of acetate of morphine to the neck of the womb, but in one case, three such doses, thus applied every third day, turned nausea into vomiting. The extract of belladonna externally applied, or made into vaginal suppositories, and internally exhibited, until the first symptoms of poisoning show themselves, will sometimes be found useful. Like other practitioners, I have seen a blister applied to the pit of the stomach suddenly to stop vomiting or nausea, and permit patients to take breakfast, who had not done so for the previous fortnight. In another case the vomiting only stopped for two days, although the blister was kept open for eight. The surface of the blister may be dressed every day with a grain of acetate of morphine, until the wound begins to heal. Another means of checking sickness is to cauterize the pit of the stomach with the *marteau de Mayor*, a little steel

hammer, which is to be held two or three minutes in boiling water, and then applied to the pit of the stomach for ten or fifteen seconds. This generally causes a thin eschar to fall off in about a fortnight, and irritation is kept up for a month or six weeks, but all these remedies failed in the following case, which I greatly relieved by establishing an issue at the pit of the stomach.

Mrs. S—, æt. 43, tall, thin, has been married many years, but has never conceived. She enjoyed tolerable health until about three years ago, when my friend, Dr. H. Bennet, treated her for an inflammatory affection of the neck of the womb. This was cured, but the patient did not gain strength, and it became apparent that the body of the womb was also inflamed. In the midst of a relapse of uterine disease vomiting supervened, and continued for five months, during which the patient was attended by Dr. H. Bennet prior to his withdrawal from practice. Change of air had no effect on the sickness, and when I took charge of the case, in October, 1859, I successively tried all the means of averting it which I have enumerated, as well as creasote, pepsine, and also chloroform, externally applied to the pit of the stomach or taken internally. In this case there was almost complete want of sleep, and, considering that there was fair ground for hoping that the procuring of sleep might at least abate the vomiting, I tried all preparations of opium, but none would agree; small doses had no effect, and I once nearly poisoned her with two grains of acetate of morphine, left in contact with the neck of the womb; still no sleep was produced. Indian hemp sometimes soothed, but gave no sleep. Every meal was vomited, probably some little was digested, though the patient thought all the food was rejected. At all events, from want of sleep and food, symptoms of inanition came on, and during last winter the patient was always cold. I kept her alive with brandy, hollands, or Maraschino; more than two pints of some spirit were taken in the course of the week, a teaspoonful at a time, without affecting the head, although, when in health, the patient habitually took nothing but

water. Last July the uterine affection was no longer painful, but the sickness was as bad as usual, although I had appealed to the large experience of Dr. Copland, who met me in consultation upon the case. One day, however, when the patient was at the worst, I told her I could suggest but one thing more—an issue to the pit of the stomach; and she then drew my attention to a little pimple at the lower end of the sternum, which had annoyed her for the last few days. This pimple was the result of a blister which had not risen. The pimple was poulticed, but in a few days it became a boil, or rather an abscess, more than two inches in diameter, and as it formed between the sternum and the skin of a much emaciated frame the pain was most acute, and as this abscess increased, more and more food was retained. Subsequently, after two violent fits of retching, without bringing up anything, the vomiting stopped altogether, after having lasted a whole year, and the patient was able to digest roast beef and other articles of ordinary diet. When vomiting ceased, sleep returned at night, and the patient had refreshing naps of from two to three hours during the day. Moreover, an unusually dry skin broke out into abundant perspiration. For a fortnight, while the abscess discharged freely, there was no vomiting, but as the discharge diminished, food was occasionally vomited; nevertheless, the patient rapidly gained flesh and strength, so that in a month after the cessation of the vomiting she went out in a Bath chair. It was evident that the sickness would return when the wound healed, and I urged the converting it into an issue, ineffectually, however, and what I anticipated occurred. In August a fixed abdominal pain rendered it necessary to apply a blister, and during the three days it remained open, all the food taken was retained. This made the patient consent to have an issue at the pit of the stomach. I applied potassa fusa, and when the eschar became loose, and a discharge was induced, the sickness abated.

In September the patient was sufficiently well to go to Liverpool, and afterwards to Italy.

It is now sixteen months since the issue has discharged, and ever since, the patient often passes several days without bringing up any food, and only brings up one, out of three meals, on other days. This is a very satisfactory result, considering that increased abdominal pain and a continued brown or red discharge shows that there is a relapse of internal metritis.

In my work on 'Diseases of Women at the Change of Life' I have related how, all other remedies failing, Moscati applied the actual cautery to the pit of the stomach. For several hours there was no vomiting, and the patient was cured by the subsequent suppuration. I have read of similar successful cases, from an issue, applied to the pit of the stomach; and in another case of obstinate sickness during menstruation, attended by myself, there was no vomiting so long as an axillar abscess was in full suppuration. I established the issue by means of potassa fusa, instead of by the simpler process of an incision, because there is often a therapeutical efficacy in pain itself. It was the long, agonising pain of the abscess which in the last case worked so wonderful a change in the system, causing a dry skin to pour out perspiration, the food to be retained after a year's impossibility of doing so, and an unappeasable nervous system to be once more soothed by long-continued sleep.

In another case of chronic inflammation of the body of the womb, which it would be too long to relate, the oft-repeated vomiting, however powerful it may be, seems to alleviate the still more distressing abdominal pains, leading me to admit that vomiting attendant on uterine disease is a symptom sometimes to be respected, and I have not sought to apply an issue in this case.

A few words on the diet of such patients. The first point is to let them have anything they fancy, and at whatever hour they like. Every half hour it is well to give a teaspoonful of some nutritious food, such as milk, with rum or brandy, cream, clotted cream, an occasional bit of biscuit,

plain, sweet, or flavoured with ginger. Five drops or more of Battley's solution of opium may be taken in a teaspoonful of brandy just before meals. Many of those who suffer from long-continued nausea would never eat if left to themselves. Their friends should be told to take to them, at unexpected times, a few mouthfuls of something savoury, and the patient must make a duty of taking them. Such patients should be treated like those in pregnancy, and made to eat; and, as I have before said, they should take food on awaking.

In the discussion which followed the reading of the foregoing paper, Dr. Gervis, Dr. Rogers, Dr. Tyler Smith, and Dr. Tanner took part. Dr. Tilt briefly replied.

February 6th, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—50 Fellows and 10 visitors.

The following gentlemen were duly elected Fellows of the Society:—Henry Francis Bate, Esq., Maida Hill; John Cooper, L.R.C.P. Ed., Clapham Rise; Alfred Fleischmann, Esq., Tunbridge Wells; William Middleton, Esq., F.R.C.S., Leamington; Duckworth Nelson, Esq., F.R.C.S., St. John's Wood; William Weld Philips, Esq., Birmingham; David John Williams, M.D., Geelong, Victoria, Australia; George Wilmshurst, Esq., Birmingham.

A letter from the executors of the late President of the Society, Dr. Rigby, was read, in which it was stated that Dr. Rigby had left directions that his books on Midwifery and the diseases of Women and Children should be presented to the Obstetrical Society. In compliance with these instructions, the executors had forwarded the books in question—upwards of 220 in number—and they were now in the charge of the Honorary Secretaries. A list of these (which included the manuscript notes of lectures attended by the two Rigbys, father and son) was handed round for inspection by the Fellows.*

It was moved by Dr. R. Uvedale West, seconded by Dr. Routh, and carried unanimously—"That the valuable collection of books on Midwifery and the diseases of Women and Children, left to the Society by their late President, Dr. Edward Rigby, be made the nucleus of a library, to be called "The Rigby Library," and that their sense of the value of the benefaction be duly recorded by the Council."

* See list of donations at the end of the present volume.

CASE OF PUERPERAL FEVER, COMPLICATED WITH DIPHTHERIA, IN WHICH LIFE WAS SAVED BY THE SESQUICHLORIDE OF IRON.

By Robert Druitt, M.R.C.P. Lond., &c.

Mrs. S—, æt. 42, confined of her fifth child, a boy, on Tuesday, the 28th February, 1860. The labour was easy and natural, and she went on well till Monday, the 5th March. On Tuesday, the 6th, I was sent for in the forenoon, and learnt that on Monday, the 5th, being the seventh day from her confinement, at 5 a.m., she had been seized with violent shivering and pain in the left leg. The pain soon left the leg, and extended up to the stomach, and fixed upon the left side, below the mamma. She had passed an extremely restless night, and had taken considerable quantities of beef tea and brandy and water, which she craved for, as she felt them do her good.

The condition in which I find her is this:—complaining of shivering and of great weakness; looks collapsed and very ill. Head free from pain. Pulse 132, breathing 28; constant pain in left side, aggravated by deep inspirations; respiratory murmur everywhere perfect and exaggerated; skin hot; abdomen soft, slightly full, and very slightly tender above the uterus; lochia absent; milk diminished; mouth out of taste, tongue dry; craving for stimulants. Ascribed the illness to sitting up in bed rocking the baby two nights. I diagnosed the case as one of mild puerperal fever, with slight pleuritis as a local symptom. In order to purify the blood, prescribed Cal. gr. viii, Opii gr. j, immediately; warm fomentations to the stomach and side; beef tea and brandy and water *ad libitum.*

Vesp.—Three bilious and feculent fetid motions. Much the same. Dover's powder, gr. v, 4tis horis.

7th.—Tongue less nauseous; pulse 132, breathing 28; some refreshing sleep; abdominal tenderness less. Go on with Dover's powder and nourishment.

Vesp.—Much more pain in left side; hard, dry cough; intense heat of skin; pulse 132, breathing 36. Three leeches to the side; Cal. gr. ss, Opii gr. ¾, Pulv. Jacobi Veri gr. ¾, 4tâ quâque horâ.

8th, 9 a.m.—Much relieved by the leeches; pain easier; cough less; slept at intervals; abdomen free from pain or tenderness; bowels open thrice; motions liquid, yellow, offensive; lochia slight; milk gone; pulse 132, breathing 28.

Vesp.—Bowels copiously moved; motions thin, reddish-yellow, very fetid; feels very exhausted; pain removed to upper part of left chest. Blister; brandy, beef tea, and half-grain doses of opium.

9th.—Some refreshing sleep; several motions; pulse 132; breathing easier; less cough; no abdominal tenderness; mind quite clear. A draught of fifteen minims of dilute nitro-muriatic acid, with syrup of ginger and camphor mixture, to be taken *ad libitum;* one grain of opium whenever restless or in pain. Suggested consultation with Dr. Frere, who diagnosed mild puerperal fever, thought the diarrhœa a probable source of exhaustion, and advised continuance of the remedies, for the patient feels the acid warm and comforting to the stomach, and takes it abundantly, besides enema of starch and laudanum after every motion.

10th.—A restless night; diarrhœa continues; wandering during sleep; pupil narcotized; pulse 132; great emaciation; no pain nor tenderness; some hacking cough; dulness over left infra-clavicular region. Go on with acid and opium.

11th.—Much the same; pulse 144; motions, six or seven in the last twenty-four hours, very liquid and offensive; some perspiration. Patient exceedingly feeble and restless during the night, wandering, feeling the clothes. Port wine, &c., opium and acid.

Vesp.—Weaker. Three grains of quinine, six minims of laudanum, and fifteen of dilute sulphuric acid, every four hours.

12th.—A very restless night; diarrhœa continues; motions pass involuntarily; pupils very contracted; no pain;

pulse 122 to 144, breathing 28; incessant picking of the bedclothes, feeling all over the bed; drowsy and wandering; answers rationally when roused; takes nourishment eagerly and in enormous quantities. Go on with quinine, dilute sulphuric acid and laudanum, every four hours.

Vesp.—Decided cinchonism; great deafness; some difficulty and constriction in swallowing; has wandered much when dozing; picks incessantly; tendons jerking; pulse 144; pupil very contracted; diarrhœa continues; other symptoms same. Omit opium. Tincture of catechu ʒiij every four hours, instead of each alternate dose of quinine.

13th.—A quieter night; pupil not so contracted; still very deaf; pulse 132 to 144, and very feeble; motions frequently pass in the bed; breathing easy, 28; wanders, and says she fancies herself surrounded by trees; complains that the throat is closing, and that she cannot swallow; incessant picking and twitching; hates to be disturbed.

At 3 p.m. had the advantage of another consultation with Dr. Frere. He considers the patient decidedly worse since his former visit; the rapidity of the pulse and great exhaustion and difficulty of swallowing were very ominous, and equally so the fact that the use of opium, quinine, and other remedies, combined with the most lavish administration of wine and nourishment, had not enabled the patient to hold her ground against the disease. In her favour was the fact of her keeping well up, and not sinking down to the foot of the bed, and a certain clearness and calmness of mind when the attention is roused. As the present set of remedies was inefficacious, he suggested the tincture of sesquichloride of iron, to be given in drachm doses, in sugared water, every two hours, and that we should meet again at 10·30. Before leaving I went to the patient, poured out a large glass of port, and ordered her to swallow it in large gulps, not in small sips such as she had been fruitlessly trying to get down, and encouraged her to persevere.

10·30 p.m.—Two doses of the steel have been taken, and the patient is certainly none the worse. To take ʒij every

two hours, and an enema of ʒij in a cup of beef tea, with ♏xx of laudanum.

14th, 8·30 a.m.—Has passed a tolerable night. Some sleep. Greatly harassed by difficulty of swallowing, constriction of the throat and flow of saliva; much cough and thin, salivary expectoration; pulse 108; likes the steel, and takes it readily, but the enema was rejected immediately, and another was equally unlucky. Bowels moved twice; motions as before; tongue fissured, and covered with aphthous spots.

Vesp.—Considerable improvement in general feelings; pulse 132; one motion only, black as ink, and completely deodorized; consisting of a thin, black liquid, full of curdled, black flakes; thirst very distressing; begins to tire of the steel. Poultice to the throat.

15th.—Considerable gain in appearance and strength; motions pultaceous and black, but less frequent; pulse still 132; skin moist; large crepitation over both lungs; consolidation of upper lobe of left lung; no pain; much cough and uneasiness of throat; all the posterior pharynx and tonsils covered with thick, whitey-brown coating; can taste nothing but the port wine. Omit the steel, because the patient loathes it. Give during the night two doses of quinine and acid.

16th.—Not so well. A very restless, exhausting night, with coughing and efforts to clear the throat; pulse 132; skin natural; begins to pass urine without motion; slight return of lochia; no hoarseness; motions thinner and more offensive. Return to the steel in half-drachm doses every four hours, and give a quarter of a grain of muriate of morphia at bedtime, and repeat it if necessary.

17th.—A good night; much stronger, and refreshed; posterior wall of pharynx free; exudation advancing over roof of mouth; an attempt to detach it causes pain and bleeding; motions less frequent and more solid. Go on with the steel and morphia.

18th.—Much better; removed to a sofa; tonsils and uvula partially clear; nose stuffy and sore; roof of mouth

coated; one motion, quite solid; pulse 116; tongue much more natural.

20th.—Much better; pulse 104; exudation entirely peeled off. N.B.—Up to this day eight bottles of the finest old port wine have been consumed, besides brandy; and four fluid ounces of tincture of steel, one of which was wasted in the lavements. Drinking *ad libitum;* the largest quantity of wine she took in one day was one bottle.

22nd.—Improving; no fever; good appetite; but still considerable dyspnœa on exertion; difficulty of lying on left side without coughing, and complete dulness under left clavicle, with marked bronchial voice and respiration.

From this date the patient continued to improve, slowly but steadily, till she went out of town, at the end of April; but she soon returned, with an attack of subacute synovial inflammation of the knees and ankles, with very foul tongue and feverishness, which symptoms were relieved by purgatives and bark with ammonia. After this she again gained flesh and strength, and gradually lost all cough and dyspnœa. I saw her from time to time, and was much interested in watching the gradual disappearance of the dulness under the left clavicle, till, by the end of July, I believed that the left lung was the better of the two.

That this patient owed her life to Dr. Frere's suggestion of the tincture of steel seems to me certain; and equally so, that the good effect of the remedy was due, not only to its powerful tonic and stimulant virtues, but likewise to the fact that it completely deodorized the contents of the alimentary canal. This appears to me a most important point in many diseases, for certes it must be no small gain to check putrescent changes in the alimentary canal, and to allow nourishment to be absorbed untainted.

The appearance of diphtheria towards the close of her illness is interesting, as tending to show the facility with which at present the diphtheritic poison seems to be generated, and to superadd itself to other putrid maladies. It is now known to hang on the skirts of measles. In the present case the exudation peeled off at the earliest possible period,

and *did not putrefy*, which constitutes the turning point in the patient's chance of safety.

Lastly, every practical physician must study causes. In the present case the alleged or possible causes were—1st, the disturbance of the patient by sitting up and rocking her child, which may have displaced coagula in the uterine veins, and introduced some putrid matter; 2nd, the residence. On this point the patient's statements are these (be it observed she is a healthy, spare, temperate person, acting as housekeeper to an eminent retired member of our profession, who occupies part of a large house in Savile Row) :—"I live and work in a peculiarly damp and dark back kitchen and scullery. When I came first, two years ago, the place was very offensive, and an infant whom I brought with me soon died of hydrocephalus. After that, the place was drained by pipes, and has ceased to be offensive, though very damp."

I examined the basement of the house myself, and found it damp and dark, and with a very musty, sepulchral smell; and though I will not accuse it of causing the fever, I will assert that it is a place in which no one can live and be healthy.

CASE OF EPILEPTIFORM CONVULSIONS IN THE THIRD WEEK OF THE PUERPERAL STATE.

By R. Uvedale West, M.D.

Mrs. E. R—, of Alford, the wife of a veterinary surgeon, was confined on the 13th of September, 1861. Mr. O—, the medical gentleman whom she had engaged, being absent from home, the management of the case devolved on me. It was her fifth confinement, and she told me that she had usually had tedious and hard labours. On the present occasion there was sudden spontaneous escape of the liquor amnii at 2 a.m., without pain. She had no pains during the next twelve hours. When I saw her about noon, her pains were recurring at intervals of half an hour, very languid and inefficient, the head lying high in its first position, with a

thick, unpromising, but not rigid, os uteri. I gave her a full dose of ergot of rye at 3 p.m., and her child, a female, was born very lively and lusty at 4.30. As her own medical man returned home a day or two after, I saw no more of her until the evening of Wednesday, September 26th, when I had a hasty summons to meet Mr. O— in consultation.

I was now informed that the patient had gone on well, with the exception of some annoyance from hæmorrhoids during the first three or four days, until the previous Sunday, September 23rd, when she began to suffer from headache, with stomach derangement. Mr. O— gave her some medicine for the relief of these symptoms. The head being worse on Wednesday morning, September 26th, she had a smart calomel dose with a saline aperient, which operated freely several times. About 6 o'clock the same evening, however, while sitting up, her bowels having just acted, she was seized with a sudden fit of fainting, with unconsciousness, from which she rallied in a few minutes, but with dilated pupils and complete loss of voluntary power of left side. Mr. O— and I were both summoned. Mr. O—, when I arrived, had applied leeches to the temples, and consciousness had returned, as well as some power in left arm and leg. She complained much of pain in the head and of nausea, was very flatulent, and had vomited some bile; the tongue was much loaded with bilious fur; the complexion was strikingly atrabilious. Looking on the symptoms as dependent on gastric irritation, we gave her a few doses of bicarbonate of potash in camphor julep, and ordered four grains of blue pill to be taken every night.

As far as regarded the puerperal state, I may mention that she had plenty of milk, and that her lochial discharge was quite fresh. Her pulse was quickened.

She continued in nearly the same state, taking a little wine, with beef tea, yelks of eggs, &c., which she retained on her stomach, until Saturday morning, September 29th, when she appeared to be better altogether; the pupils were natural; the voluntary power in left arm and leg was nearly perfect, sensation in those limbs being unimpaired; the skin was cool and natural; the pulse 80, soft; the nausea had

ceased, and the tongue was cleaner; there were, however, some twitchings about the mouth, and some headache. But at 1 p.m. she had another fit, in which I fortunately saw her almost immediately after the seizure. It had come on during her sleep. I found her quite comatose; the pupils much dilated, the right more so than the left, and quite insensible to the light; the left side was again quite paralysed; she had emitted from the mouth some frothy saliva tinged with blood, having probably bitten her tongue. We gave her a turpentine enema, applied sinapisms to scrobiculus cordis, and liquid blisters behind the ears. She came to herself again in about half an hour, her respiration continuing as it had been during the fit, markedly laborious, and exclusively abdominal, with frequent deep sighings. A specimen of urine passed just before the fit was found to be albuminous. We called in Dr. Grantham, of Burgh, in consultation, who saw her with us at 6 p.m. Looking on the case as a very adynamic one, and the paralytic or convulsive seizures as depending on gastric irritation, he advised quinine with dilute nitric acid and chloric ether, and perseverance with such nourishing and stimulating fluid diet as the stomach would retain; the blue pill to be discontinued.

Sunday morning, September 30th.—Is lying doubled up on left side, with face nearly buried in the pillow; is quite conscious; pupils natural; complains of her head; pulse 100, very weak; retains her nourishment, which she takes in very fair quantity—wine, jellies, eggs, toast, &c.; the bowels have been moved.

Sunday evening.—Is more torpid; lying on her back; in all other respects the same as in the morning; pulse 96, soft, weak, and compressible; tongue cleaner.

Monday morning, October 1st.—Is less torpid; in other respects the same as yesterday. At noon had another fit, with convulsive (epileptic?) movements of *both* arms, the left arm, which had been paralysed, and had only partially recovered voluntary power, jerking more violently than the right. This fit lasted three quarters of an hour and then gradually went off, the dilated pupils slowly reacquiring their power of obedience to light. When the fit had quite

subsided she seemed better than last night, articulation however continuing imperfect for some hours, and complete hemiplegia returning. There being much flatus in colon, I ordered another turpentine injection.

Monday evening.—Is altogether better; the injection has acted well in bringing away flatus; articulation more distinct; pupils natural; is very clear and rational; complains of much pain in back of head on the slightest movement. Had another fit at midnight, with violent movements of paralysed arm. This fit lasted three quarters of an hour and then ceased, leaving her placid and rational.

Tuesday morning, 2nd.—I was summoned at 4 a.m., another fit having come on. I gave her a dose of morphine, as soon as it went off, thinking to arrest the irritation on its way to the nervous centres. She had another fit at 9 a.m., a slight one, during which she appeared to have some consciousness. She had another fit at 4 p.m., epileptic in character, and then lay perfectly quiet until—

3 a.m., Wednesday, 3rd, when another fit came on, which was followed with but little interval by two or three others until 4 o'clock, when they ceased, leaving her quiet and conscious, but returned again at 8, when she had three or four fits in quick succession, decidedly epileptic in character, the twitching of the face being directed to the left side, and the left arm jerking more violently than the right. At 6 that morning we gave her a grain of Acetate of Morphia, with a drachm and a half of Tinct. Fœtid., to be taken in three doses, one every hour.

At 10 a.m. I examined a specimen of urine, which was obtained with great difficulty; it was no longer albuminous, and I hoped that the crisis of the disease had arrived. Fits of an epileptic character began again at 11, and they returned every hour until 2.30 p.m., the last of them, which I happened to witness, being a very mild one, with twitchings of the muscles of the left side of the face. At 8 p.m., when I called, I found her in a very good state, having had no more fits beyond a few slight twitchings of the mouth and face, without loss of consciousness; these coming on when the bowels were acting, which they had done several times,

as the probable effect of a drachm of turpentine with an equal quantity of castor oil taken in the morning. I felt confirmed in the opinion I had formed in the morning, that a critical change for the better was going on. She had eaten well.

Thursday morning, 4th.—Is apparently better, although she had ten fits in the course of the night, the twitchings being limited to the face. She had another dose of turpentine and castor oil. Had many slight fits during this day, but was for the most part conscious during them.

Friday morning, 5th.—Is still better. The fits keep coming, slight ones, consisting chiefly of twitchings or winkings of the eyes. She can move the left leg, but not the arm of that side. Eats well.

Sumat Ol. Tereb., ʒij, ex lacte.

Evening of the same day.—Many slight fits during the day, with twitchings of face, and sometimes of paralysed arm. Is better to-night, can move left leg, but not left arm.

Saturday morning, 6th.—The fits have been much less frequent, occurring only when flatus is passing, or when a sensation that the bowels are about to act is felt. In other respects there are no bad symptoms; pulse and pupils quite natural; appetite good. Evening of same day.—She has had two or three fits in the course of the day, of the same slight, unreal character as they have been since Wednesday. At 5.30 I happened to be present when a fit came on; she was getting her tea; suddenly her countenance changed; she said she felt a fit coming, but she continued eating a piece of toast; the left side of her face twitched rapidly and severely for a few minutes, without entirely stopping mastication. There were no other convulsive movements. She then finished her tea, as if nothing had occurred. Power is returning to left arm.

Sunday morning, 7th.—No more fits since 5.30 last evening; can move left arm freely. Monday afternoon, 8th.—No more fits of any kind; appetite good; pulse natural; pupils natural; is still, however, annoyed with flatulent stomach. Tuesday, 9th.—Has had no more fits. She had all this time continued taking the quinine with nitric acid and chloric ether, but on

Wednesday, 10th, 1 p.m., I had to report — Has had no more fits, but is very bilious again; nausea returning, with increased flatulence, very bilious, furred tongue, and other symptoms of returning gastric disturbance. Gave her a dose of blue pill and some doses of bicarbonate of potash, with bitter infusion, &c. She complained much of her head.

To be brief, there was an end of convulsion and of all dangerous symptoms. She continued a long time very weakly, however. At the end of another week, finding great pallor and œdema of tongue, I gave her chlorate of potass and Tinct. Ferri Ses.-chlorid., which speedily had a beneficial effect on her general state, which was seen as much in the gradual disappearance of her very atrabilious complexion as in the improvement in the œdematous and anæmic condition of the tongue.

Although her milk had left her some weeks, it was not until the expiration of two months from her confinement that menstruation returned, and when it did she had a return of unpleasant feelings, as if her fits were coming on again. The period lasted about four days, after which she felt pretty well again.

There was certainly no cerebral *mischief* in this case, all the symptoms, formidable and alarming though they appeared, being merely the effect of eccentric intestinal irritation, joined with slight albuminuria, at a time when the puerperal state rendered the nervous system peculiarly susceptible. And yet, in addition to hemiplegia of some persistence, there were immoveably dilated pupils, great torpor, convulsions, unconsciousness and other formidable appearances; while, in the rapidly fatal case, a report of which was read before this Society at the meeting in October last,[1] although there was, it is true, hemiplegia and imperfect coma, the pupils were quite natural, notwithstanding that, on a post-mortem examination, a considerable quantity of effused serum was found in one of the lateral ventricles, besides other cerebral disease. The two cases, studied together, certainly show how little we can rely on symptoms alone in forming a diagnosis in cerebral affections.

[1] Vide 'Transactions,' vol. ii, p. 276.

OVARIOTOMY; WITH CASES, AND REMARKS ON THE DIFFERENT STEPS OF THE OPERATION AND THE CAUSES OF ITS MORTALITY.

By W. Tyler Smith, M.D., F.R.C.P., &c.

The operation of ovariotomy was, I believe, first proposed by John Hunter in the surgical lectures delivered by him in 1786-7. When speaking of hydatids, he says, "Those of the uterus and ovaries are generally circumscribed bags, and generally are numerous, especially in the ovaries, and appear somewhat similar to those of the scrotum, forming a species of hydrocele of the part. At first they are thin, containing a transparent fluid, but afterwards they become thicker, and the fluid is bloody or like a jelly. They have, when small, but little attachment, but afterwards get to adhere to each other, when they grow often very large, and increase the size of the belly, forming ovarian dropsy. The history and progress only of the case can in general distinguish it from ascites; at first there is a partial moveable swelling, rolling from side to side in bed. Afterwards they become fixed, but even then in thin people inequalities may be felt; when large they become fixed to the parietes of the abdomen, and if the person is not very fat a fluctuation may be felt. The health is but little affected by them. Hence the cause is very different from ascites, where the health is first injured. Tapping is only a palliative cure, and a large trocar is required, as the fluid is generally gelatinous, and then only one cell is opened. If taken in the incipient stage, they might be taken out, as they generally render life disagreeable for a year or two, and kill in the end. There is no reason why women should not bear spaying as well as other animals. It would simply be opening the cavity of the abdomen, which we often do without inconvenience in healthy constitutions."

The first operation was performed by Dr. MacDowell, an American physician, in 1809. Cases are referred to as having been operated on before this date by Dzondi, L'Aumonier, and others, but it can be shown that these cases were not genuine. In the recent valuable statistical work of Mr. Clay, of Birmingham, the case of L'Aumonier is given as the earliest on record, but it is evidently one, not of cystic disease, but of pelvic abscess after delivery, implicating the ovarium and Fallopian tube. We must then give to America the honour of originating this operation, which will probably be ranked as one of the greatest improvements in the practice of the present century.

My own adhesion to the operation has arisen from continued disappointment as to the results of all other methods of treatment during twenty years of private and ten of hospital practice. To treat ovarian tumours has only been a degree less melancholy than to treat uterine cancer. With this single exception, these tumours have always been the most intractable of the diseases peculiar to women. After simple tapping, the arrest of the disease for any length of time is a rare exception. Dr. West, who is opposed to ovariotomy, has collected 130 cases of tapping in ovarian dropsy. At the end of one year 69 were dead, and 114 were known to have eventually died of the disease, leaving only sixteen to be accounted as cures or unknown results. A good deal of sanguine expectation has been raised by Boinet and others with regard to tapping and the injection of the cysts with iodine. But this is not borne out by experience. Velpeau has stated that of 130 cases tapped and injected, 66 either ended fatally or refilled, and 64 were cured. I believe this is far too favorable an estimate; it is certainly more so than my own experience of this method would justify. It must be borne in mind that in these so-called cases of cure the nidus of the disease remains, and may break out again into activity at a period more or less remote. Severe and dangerous as the operation for extirpating the disease undoubtedly is, its results are, I believe, more favorable and lead to a greater aggregate prolongation

of life than any other mode of treatment. The latest statistical data with regard to ovariotomy—those furnished by Mr. Clay—show that of 395 cases in which the operation was completed, 212 recovered, and 183 died. These figures yield a better result than is met with in several other recognised operations, and the proportion of cures is greater than after tapping or tapping with injection. The cure, moreover, is complete and lasting. Professor Simpson has demonstrated that the average mortality from ovariotomy is less than the mortality from amputations of the thigh or arm, ligature of the subclavian artery, or adult lithotomy, all of which are recognised as legitimate operations. It appears to me, therefore, from these various considerations, that we ought to leave the old tracks, and devote ourselves to the improvement of the operation of ovariotomy. Without further preface, I proceed to relate the cases which form the subject of the present paper.

CASE 1.—*Monocystic dropsy of the left ovary; operation; recovery.*

Mrs. M—, æt. 50, of Boston, in Lincolnshire, was sent to me early in October, 1860, by Dr. Birkett, of Russell Square. She was the mother of a large family, and had ceased to menstruate about two years before. From the time of the cessation she had gradually increased in size. Her general health had previously been uniformly good. On examination, I found an ovarian cyst, unilocular, and considerably larger than the gravid uterus at the full term. The points in relation to tapping, tapping with injection of iodine, aud ovariotomy, were fairly put before her, and after a little consideration she elected to have the tumour removed.

The operation was performed on the 15th of October, Dr. Murray, Mr. Edwards, and Mr. Staples, being present and assisting me. Her room had been kept for the two preceding days at about 70° Fahr. She was placed in a sitting position in an easy chair and chloroformed. An incision was made in the median line, between the umbilicus

and the pubis. The cyst, on being brought into view, was tapped with a large trocar, and the contents evacuated. There was a slight quantity of ascitic fluid. The cyst was non-adherent, and was drawn through the opening without difficulty. A needle, double-threaded, was then passed through the middle of the pedicle, which was very short, and tied firmly on each side. The ends of the ligature were again tied round the whole of the pedicle. Great care was taken throughout not to strain the pedicle or expose the intestines. When secured, the pedicle was allowed to drop into the pelvis, and the ligature kept at the bottom of the incision. The wound was closed by three or four deep sutures of single silk and by several intermediate and superficial ones. The deep sutures were passed carefully through the anterior surface of the peritoneal edges, but without piercing this membrane. The wound was covered with wet lint, and several sheets of fine cotton wool were laid over the abdomen, so as to keep up warmth and gentle pressure, and the whole was secured by a wide flannel bandage. When the patient was laid in bed after the operation the pulse was 100. She took an opiate at this time, but it caused bilious vomiting, which lasted the whole of the night and part of the next day. I found that opiates had always disagreed with her in the same manner. As the effect of the opiate passed off, the sickness abated. It seemed also to be relieved by a dose of calomel and creasote. She took nothing but ice, iced milk, gruel and arrowroot, for the first two or three days. During this time the pulse ranged between 100 and 120. There was very little pain, except from the efforts of vomiting, and not much distension of the abdomen. The urine was drawn off by the catheter night and morning. On the fourth day, as she complained of great uneasiness of the bowels, and a desire to have them relieved, she had a mild aperient pill. This caused a good deal of griping, but when the bowels were moved great relief was experienced. The pulse was from 120 to 130, but soft and weak. A dessert-spoonful of brandy in arrowroot or beef tea was ordered every four hours. This had a marked effect in

reducing the pulse. The stimulus was in a day or two increased to a table-spoonful at a time, and soon after she began to take fish and chicken. The superficial ligatures were removed on the fourth day, and union by the first intention was found to have taken place. A day or two later the deep-seated sutures were drawn out, the newly healed wound being supported by bands of adhesive plaster. Little or no suppuration occurred. The discharge was moderately offensive for two or three days during the sloughing of the pedicle. She progressed without accident, left off the brandy, and took porter, which she preferred, with a fair quantity of animal food. Exactly four weeks from the operation she was well enough to go out, called on Dr. Birkett to show herself to him, and then travelled by rail to Boston. The ligature came away in seven weeks, and the wound at once healed. My friend Dr. R. U. West, of Alford, went to see her subsequently, and reported her as in perfect health. She has continued thus up to the present time.

The cyst has been prepared by Mr. Edwards, and is exhibited on the table. On reviewing this case I think the patient would have done better without the opiate, and also if the aperient had been deferred a day or two.

Case 2.—*Polycystic disease of the left ovary; tapping; operation; and recovery.*

M. C— was admitted into the Boynton Ward of St. Mary's Hospital in July, 1860. She was twenty-four years of age, unmarried, and the catamenia had always been natural and regular. She had an ovarian cyst of large size, with a considerable amount of solid matter. Tapping and pressure were resorted to in the first instance, but the cyst soon began to fill again. She had heard of ovariotomy, and being anxious to have the operation performed, she was advised to go into the country for a few weeks, and, on returning, to take a lodging for the purpose of having the tumour removed. Her friends were respectable, and willing to bear the expenses of lodging and nursing.

The operation was performed on the 15th of November, 1860, Dr. Murray, Mr. Edwards, Mr. Staples, and Mr. Lousley, assisting. The first part of the operation was the same as in the former case. Tapping evacuated about one half of the fluid, and it was found that a second cyst lay behind the first. This was emptied in the same way. The tumour was found to be extensively adherent, by the right and upper surfaces, to the greater and lesser omentum and the arch of the colon. The adhesions were carefully broken down by the hand, and the cysts, which contained a considerable quantity of solid matter, brought through the opening. The pedicle was tied as in the former case, and allowed to drop into the pelvis. Considerable oozing from the omentum had been going on, although there was no vessel requiring a ligature. We waited from ten to fifteen minutes until the torn surfaces had ceased to bleed, when we carefully removed the coagula, which had formed to the extent of several ounces, and then closed the incision by deep and superficial silk sutures. One portion of the operation it is right to notice. The peritoneum was so much thickened that, on cutting down upon it, we mistook it for the cyst, and separated it, for about an inch on each side, at the upper part of the incision, supposing it to be the adherent cyst.

This patient had an opiate after the operation, and for the first two days went on favorably. She then suffered from abdominal tenderness, incessant vomiting, with great distension of the intestines by flatus. She was treated by calomel and opium, ice, cajeput oil, creasote, charcoal, and turpentine stupes to the sides of the abdomen. The stomach was rested as regards food, and beef-tea enemata with brandy were given. Warm poultices over the wound gave great comfort. On two occasions, when the distension was very great, the gas was let off from the intestines by the O'Beirne's tube. Ice, cajeput oil, and stuping afforded great relief. As soon as the pain subsided she took champagne, brandy, and animal broths pretty freely.

At the end of a week the sutures were all removed. The

wound had nearly healed by the first intention, but it afterwards inflamed and suppurated nearly its whole length, from the skin to the peritoneum. The wound and the openings of the sutures discharged freely, and reduced her strength. She remained in considerable danger for upwards of a week, and owes her recovery very much to the incessant care bestowed on her by Mr. Edwards. As soon as the wound began to fill up it healed rapidly; she took, during this time, large quantities of stimulus and food. The catheter was used during the first fortnight.

When she became able to sit up and move about she was seized with violent pain in the situation of the adhesions. It appeared as though the movements of walking had separated or inflamed the newly adherent surfaces. She had a few doses of calomel and opium, turpentine was applied externally, and, with perfect rest, the pain soon left her. She is now, eleven weeks after the operation, in good health. The ligature has not yet come away, but the opening through which it protrudes is diminished to the smallest possible extent.

In this case I believe the suppuration in the line of incision depended, to some extent, on the separation of the abdominal wall from the peritoneum; and the threatened mischief to the adhesions, from moving about too soon after the operation. The largest of the cysts has been prepared by Mr. Edwards; it is about half the size of the tumour when entire.

Case 3.—*Monocystic disease of the left ovary; operation; recovery.*

On the 27th of December, 1860, I met Mr. Macrae, of Lewes, in consultation on a case of suspected ovarian tumour. The patient, a lady, unmarried, about thirty, had from early childhood fulness of the abdomen and a slight amount of lateral spinal curvature. In the summer of 1860 the swelling increased considerably. In the autumn the catamenia were absent two months. At this time she was

travelling in Switzerland, and took the usual amount of exercise. She afterwards drank the waters of Homburg, but without benefit. When I saw her the distension was sufficient to cause a good deal of distress to the stomach, heart, and lungs. Otherwise her constitutional state was good.

We found a fluctuating tumour in the middle of the abdomen, with the intestines resonant behind it, on each side, and had no hesitation in pronouncing it to be a single ovarian cyst. We could detect no signs of adhesions. After consulting together, we put before the lady's mother the alternatives of simple tapping, tapping with injection, and ovariotomy. The decision was very promptly made in favour of the removal of the tumour. We stated that the tumour was not then large enough to produce danger, and that the operation might be deferred for some months with perfect safety. The reply was, that "they wished the removal without delay; they could not bear the misery of protracted suspense."

The operation was performed on the 7th of December, 1860, Mr. Macrae, Mr. Edwards, Mr. Staples, and Dr. Murray being present. The incision was about four inches long. The steps of the operation were the same as in the former cases. There were no adhesions, and but a small quantity of ascitic fluid. The tumour consisted of one large cyst, and a solid mass behind the cyst, containing a great number of undeveloped cysts. The only point to be noted in the operation was, that in passing the needle through the belly of the rectus for one of the deep sutures, a vessel was wounded and bled freely. Tightening the suture at once arrested this hæmorrhage. The posterior surface of the edge of the peritoneum on each side was carefully taken up by all the deep sutures.

This patient went on with scarcely a drawback; she took a full opiate after the operation, and slept tolerably well. The pulse remained a little above 100 for the first three days, during which she took nothing but iced milk, gruel, and arrowroot. After this the pulse rose to 130, but it was soft and full, and there was no pain beyond soreness of the

wound. Stimulants were now given, in the shape of small quantities of brandy and port wine in arrowroot and beef tea, which reduced the pulse. The catheter was required during the first ten days. Throughout there was neither sickness nor abdominal pain. The tympanitic distension was much less than in the former cases. The superficial sutures were taken away on the third and fourth, and the deep-seated ones on the sixth and seventh days. After their removal, the wound was carefully supported by adhesive plaster. The healing was almost entirely by the first intention. When the suture which passed through the rectus was drawn out, free bleeding again occurred, and had to be stopped by pressure with the tip of the finger. The bowels, which were habitually constipated, were relieved after some difficulty by castor oil and enemata on the tenth day. The deep sutures suppurated moderately, and then healed. The healing of the incision remained firm from the first. The patient sat up convalescent in three weeks from the operation.

The only point calling for remark is the hæmorrhage from the rectus, and I should certainly in future avoid the muscle in passing the sutures. The cyst has been prepared by Mr. Edwards. The solid portion of the tumour has of course been removed.

CASE 4.—*Polycystic disease of the left ovary of the colloid type; operation; recovery.*

On the 1st of January, 1861, Dr. Edward Jones, of Sydenham, requested me to see a patient with him. Mrs. R—, æt. 35, had been delivered four months before of a healthy child at the full term. During pregnancy her health had been tolerably good. Some years ago she had suffered a good deal from indigestion and bilious disorder, and on two occasions had been jaundiced. She was of nervous, excitable temperament. Soon after delivery she had complained of pain in the left side, and observed a small swelling in the lower part of the abdomen. Dr. Arthur Farre saw her two or three times, and pronounced the

tumour to be ovarian. The last time she consulted him he advised that tapping should be had recourse to. The tumour had grown so rapidly in the last few weeks that she was much larger than before her labour.

On examination, I found a superficial fluctuation over the greater part of the front of the abdomen. She measured forty-four inches, her natural figure being thin. Beneath the superficial fluctuation a dense, fluctuating tumour could be felt. The whole of the left side was solid on percussion. No resonance could be detected in the left lumbar region behind the tumour. Percussion showed that the intestines were accumulated on the right side, extending nearly as far as the linea alba, and encroaching beyond it to the left side, between the umbilicus and the ensiform cartilage. I gave it as my opinion that there was a considerable amount of ascitic fluid, with a large, dense, ovarian tumour, and that adhesions must exist on the left side, causing the displacement of the intestines to the right, and confining the tumour chiefly on the left side of the abdomen. Before her pregnancy she had been regular, but since parturition she has had a constant coloured discharge to a slight extent.

The patient and her friends had heard of Case 1, and were anxious for the performance of ovariotomy. Her health was suffering, and the tumour was accordingly removed on the 4th of January, in the presence and with the assistance of Dr. E. Jones, Dr. Murray, and Mr. Edwards. The temperature was so low out of doors that it was only with great difficulty we could get the temperature of the room up to 60°. It was, however, kept at this heat day and night for nearly three weeks from the time of the operation. The first incision was made in the median line below the umbilicus; the abdominal walls were very thin, and as soon as the peritoneal cavity was opened a large quantity of ascitic fluid escaped. While this was being evacuated a large trocar was plunged into the softest and most prominent part of the tumour. The contents began to escape, but very slowly; it was of the colour and consistence of soft soap or honey. Ordinary tapping would have been impracticable in this case. The escape

of the gelatinous matter was so slow that the trocar was soon withdrawn, and an opening made into the cyst which had been tapped, with a bistoury. When this had been emptied, it was found that the tumour was of the colloid variety, consisting of much solid material, and enclosing a number of cysts or cavities of smaller and variable size, filled with the same semifluid substance. Several of the larger cysts were opened, and the mass was thus sufficiently reduced to allow of its passing through the opening in the abdomen. The tumour was found to be firmly and extensively adherent on the left side and at its upper surface to the abdominal walls by a number of strong, rope-like bands. These were separated by the hand, great force being necessary to detach them. The tumour was now carefully drawn out, and an armed needle passed through the pedicle, which was broad, short, and comparatively thin. It was tied on each side, but during this proceeding the weight of the tumour, although it was carefully handled, split the pedicle at the point of transfixion. Free bleeding occurred from the rent, and a second ligature was passed round the entire pedicle, and tied firmly below the fissure. The oozing of blood from the adhesions had now ceased, no vessels requiring to be tied. Great care was required to get the whole of the ascitic fluid discharged from the posterior and inferior parts of the abdominal and pelvic cavities. The wound was then drawn together, as in the other cases, by deep-seated and superficial sutures, and dressed with wet lint. The abdomen was covered over with several layers of fine cotton wool, and supported by a flannel bandage.

The patient had an opiate at night and was tranquil, but did not sleep much. I saw her with Dr. Jones on the 6th, two days after the operation, up to which time she had gone on favorably. She was able to pass water herself from the first, in a recumbent position, which was not the case with the other patients. The pulse was 120, and no pain was complained of beyond the soreness of the wound and a desire to have the bowels relieved. On the 7th some of the superficial sutures were removed. The wound was

healing favorably by the first intention. The bowels were moved without medicine on the fourth day. She complained of pain from wind, for which she had cajeput oil, but the pulse remained the same and her aspect good. In the evening she had another opiate, the second since the operation, and passed a good night. On the 11th and 12th the rest of the sutures were taken away. The flatulent distension had been such as to make us unwilling to take them away earlier, lest the incision should gape, but they had now begun to cut through. The wound was carefully supported by strapping. The sutures suppurated, and so also did the incision, at one or two points. At the end of the first week diarrhœa came on, requiring chalk and opium during the period of suppuration. The pulse varied from 120 to 140, seldom going to 100 during the second week. In the absence of inflammatory symptoms the quick pulse was taken to indicate debility, and brandy and wine were given, as in the other cases, with good effect. After the first week she had begun to take solid food and meat in considerable quantities. At the end of a fortnight she took animal food three or four times a day, and had four ounces of brandy and eight ounces of wine in the twenty-four hours. A full opiate was given every night. The diarrhœa continued notwithstanding the chalk and opium, but was at length checked by injections of beef tea and brandy, as in Case 2. After this her recovery was favorable. She sat up at the end of a month, the wound gradually healing and the sutures closed. The slight sanguineous discharge from the vagina has continued throughout. The ligature came away February 3rd, accompanied by a good deal of discharge. The last report I had was that she "was going on very satisfactorily." The tumour is exhibited. It weighed, after its removal, twenty pounds. Dr. Jones had the entire management of the case after the operation.

It is not my wish to vaunt the preceding cases in any way. Others have, no doubt, met with an equal run of good fortune. As far as they go, they are a contribution to the right side of the statistics of ovariotomy. I may

be permitted to say that they were not selected in any way. The second and fourth were both unfavorable cases. The last, especially, was of the very worst form of ovarian disease, that which most nearly approaches to the character of malignancy. They are the only cases in which I have ever attempted anything beyond tapping or tapping with iodine injection. The avowal may seem humiliating, but I am bound to confess that in the treatment of ovarian disease I have not done as much good in the whole of my previous career as I have in the few months occupied by the cases now selected. I could not before point to an equal number of distinct and positive cures of this common and destructive malady. It would not be possible, individually, to say anything stronger than this in favour of the operation. Everything in the least degree untoward in the performance of the operations has been related.

I now beg to offer a few observations on the different steps of the operation itself, and on the chief sources of the mortality which attends it.

My own operations were performed with the patient in a sitting posture, in an easy chair. This position seems better than any other to allow of tapping without the escape of the contents of the cyst into the peritoneum. Sometimes the fluid of the cyst is bland and unirritating, but at others it irritates the peritoneal surface greatly. The position also favours the escape of ascitic fluid from the abdomen and pelvis, which is a matter of considerable importance. I followed the usual plan of keeping up a high temperature in the room during and for some days after the operation. Chloroform was used in all, and vomiting occurred but in one case during its administration. There was no difficulty in preventing the contents of the stomach from coming near the incision, as is said to have sometimes happened.

I used what may be termed the short incision in each case. The question of operating by the long or short incision seems to me subordinate to the question of the size through which the tumour may be drawn in individual cases. Those who advocate the long incision consider it

important to finish the operation as quickly as possible. This is, I believe, the view taken by Dr. Clay, of Manchester, a physician who has up to the present time operated in 104 cases, with a success equal to 70 per cent., and who must be considered as the greatest practical authority in all that relates to ovariotomy. With due deference, it appears to me that a little delay is of less consequence than the greater amount of surface left for union, and the greater exposure of the intestines, by the long incision. In all cases where the tumour contains fluid it is only reasonable that it should be tapped and reduced in size as much as possible before it is drawn through the incision. In the case of solid tumours, when a large opening may be necessary, there can be no difficulty in enlarging the opening after the operation is begun. I should prefer, therefore, a moderate incision, which could be thus enlarged, to making an incision unnecessarily large in the first instance.

In dealing with the pedicle, I have preferred the ligature to the clamp, for the following reasons. The weight of the clamp is considerable, a moderate-sized one weighing several ounces. This alone must tend to irritate the wound and the structures beneath it. I believe the only two fatal instances of tetanus which have followed ovariotomy occurred in cases where the clamp had been used. I would suggest that if the clamp is used and left on the wound, aluminium would be a good material for it, as being light and non-oxidizable. In the four cases detailed the pedicle was very short. When the pedicle is fixed by the clamp, or by any other method, to the external wound, if violent vomiting or coughing, or tympanitic distension of the abdomen should happen, the pedicle is necessarily strained a good deal, and this is represented to me by those who have witnessed it as very distressing to the patient. It remains to be seen how the uterus will behave when impregnation occurs, or if impregnation is likely to happen when this organ has been made to adhere to the abdominal wall above the bladder. The essential part of ovariotomy consists in this—that two considerable wounds are made in the peritoneum, one by the

abdominal incision, the other by the division of the pedicle. Theoretically, it seems a beautiful improvement upon the plan of the ligature and the return of the pedicle within the abdomen, to convert, as it were, the two wounds in the peritoneum into one, and thus to bring all the discharges externally. A real advantage of the clamp is that it may be removed as the wound heals, and the patient is cured at an earlier period than is usual with the ligature. In practice, however, I have seen no bad results follow the plan of letting the pedicle fall into the pelvis, and bringing the ligatures out at the lower part of the wound. The pedicle is subjected to no strain, while the discharges from the stump escape readily by the external wound. It might be supposed that abscesses would thus be produced, but this cannot be a very frequent occurrence, as the deaths from abscess do not exceed one and a half per cent. of the fatal cases. Immediately after the operation a sheath or canal of organized lymph or false membrane is probably formed round the ligature, so as to shut it off from the cavity of the peritoneum. These changes take place very rapidly on the serous surface, and before any decomposition can take place in the stump of the pedicle. This inclusion of the ligature, and the adhesion of the peritoneum, would seem to be the first effort of repair after the operation in successful cases. Looking to the most important point, namely, the statistical results, it would appear that the proportion of deaths has been greater when the clamp has been used, or the stump kept outside, than when it has been allowed to fall into the abdomen. When the pedicle has been left within the abdomen the recoveries have outnumbered the deaths; when the pedicle has been secured without, the deaths have preponderated. According to Mr. Clay, the following are the results in 344 cases in which it was either known or inferred that the stump was kept within the abdomen, and in forty-five cases in which it was kept without by various methods:

Class of cases.	Stated left within the abdomen.	Inferred left within the abdomen.	Kept without by various methods.
Successful	113	76	20
Unsuccessful ...	58	97	25
Total	171	173	45

The only apparent inconvenience attending the return of the pedicle is the length of time which elapses before the ligature comes away.

I have used strong silk for the deep-seated and superficial sutures. I am not sure whether silk or wire would be the best material, and I have determined to try silver wire in a series of cases. I have been careful to put in a sufficient number of sutures to keep the incision perfectly closed, except at the exit of the ligature, and I have taken up the edges of the posterior face of the peritoneum with every deep-seated suture. Mr. Spencer Wells, whose authority on such a point is great, and whose success has been highly favorable, amounting, I believe, to fourteen recoveries and seven deaths in twenty-one cases, uses hare-lip pins and a figure-of-eight suture to close the incision. My reasons for preferring the ordinary sutures are, that we do not absolutely want the support afforded by the pins in hare-lip cases, in closing the abdominal walls, and that the simple suture is likely to cause less strain and irritation than the pins. I wish to speak, however, with deference upon this matter.

In the management of adhesions, it may seem a work of supererogation to say that they should be separated with as little force and bruising as possible. The separation ought to be effected as far as is practicable on the side of the tumour, so as to inflict injury upon the cyst rather than on the viscera or abdominal walls. It appears better to separate the adhesions with the fingers than with the knife. Less hæmorrhage is thus caused; when bleeding occurs, it should be arrested by ligatures, if necessary. Where oozing only takes place, the wound should never be sewn up until it has ceased, and all clots and bloody serum have been

carefully taken away. The peritoneum does not tolerate blood, and death has followed on the effusion of a very moderate quantity of coagulum and serum into its cavity.

Opium was not given largely in any case but the last, and here it was administered with astringents, to check diarrhœa in the second and third week, and not immediately after the operation. Some operators of large experience, including, I believe, Mr. Baker Brown, have advised that the patient should be kept under the influence of opium for several days after the operation, to constipate the bowels and keep them quiet, and to prevent pain and inflammation. In the absence of acute pain it appears to me that opium is more likely to do harm than good, by upsetting the stomach and causing flatulent distension of the bowels. When there is severe pain, there can be no question of its usefulness, either with or without calomel. The operation is not, however, necessarily followed by any great amount of pain.

The employment of stimulants at the right time is an important element of treatment. In the cases related it was found that on the second, third, or fourth day, the pulse rose in frequency, the skin became hot, and the patient was excited. At this time, in the absence of all hardness and wiriness in the pulse, small quantities of brandy and wine were given, and in every instance with the effect of lowering and strengthening the pulse. The amount of stimulus was steadily increased until the pulse fell below 100. After the shock of the operation reaction occurs, and may either go on to exhaustion or inflammation. It is of great clinical importance to watch this phase of the after-treatment. I think, in reading the accounts of recorded cases, it would not be unreasonable to suppose that some of them sank for want of timely stimulation.

Mr. Clay has compiled a valuable table, setting forth the special causes of mortality in 150 cases. From this it is found that nearly 17 per cent. of the fatal cases have occurred from shock or collapse, produced by the operation itself. The way in which this source of fatality should be met

must be by resorting to the operation at an earlier period than that at which it is now sometimes performed. In many cases it is not decided on till the patient has reached such a state of exhaustion as to be unable to bear this or any other serious operation. Unless in cases of great or extensive adhesion, there is nothing necessarily belonging to the operation which, with chloroform, should produce dangerous shock. This source of danger will doubtless be diminished when the operation becomes generally recognised, as an established and necessary proceeding in suitable cases. We may reasonably hope that improvements in diagnosis will diminish the number of cases in which the abdomen is opened without finding ovarian tumours. Earlier operation would also lessen the number of cases of adhesion between the cyst and other organs. According to the same table, exactly 16 per cent. of the fatal cases have died from hæmorrhage. All or nearly all of them may be prevented by care in the application of the ligature to the pedicle, and in securing hæmorrhage connected with adhesions. The ligature should never be left, until we are quite certain that all bleeding has ceased, nor the abdomen closed, while any loss is going on from severed adhesions. One source of hæmorrhage has been the use of the ligature without transfixing the pedicle. There is a notable increase of the mortality in cases where the pedicle is tied in one mass, as compared with the results when it is transfixed and tied in two or more portions.

Class of Cases.	Pedicle tied in two or more portions.	Pedicle singly ligatured.
Successful	122	22
Unsuccessful	57	26
Total.....	179	48

Dividing the pedicle too near the ligature is another source of danger, by allowing the ligature to slip over the stump. Fatal hæmorrhage has occurred with the clamp, as well as with the ligature.

I have had no experience of peritonitis after the operation. I should treat it by small, prompt bleedings, and calomel and opium. This disease is by far the most fatal complication which can occur. Not less than 43 per cent. of the fatal cases have died in this way. Looking to the histories of the cases which have been thus lost, it can, I believe, be shown that peritonitis does not depend so much upon anything inherent in, and belonging to, the operation itself, as upon miasmatic or contagious influences. This is, I think, fully proved by the great fatality of the operation in hospitals, as compared with private practice. It is very difficult to get a successful result in a large hospital, yet the operations are nowhere more skilfully performed nor the after-treatment better. Peritonitis following ovariotomy is evidently, in the majority of cases, not simple inflammatory peritonitis, but a disease closely resembling puerperal fever or surgical fever, and due commonly to some poisonous external agency. This is the only way in which the excessive mortality after the operation in hospitals in this country and on the continent can be explained. The ovariotomy patient is as susceptible as the puerperal woman, or even more so. Such cases cannot safely be collected together, or mixed with other patients, and in the long run, I believe, the results cannot be favorable either in general or special hospitals. In the operations detailed above every possible care was taken that they should be performed under good sanitary conditions; that as few persons saw the patients or were present at the operations as possible, and that nothing came near them in the shape of contagion or infection. Each patient was treated, in fact, as we should treat and guard a lying-in woman. To this, more than to anything beside, I attribute their success. It seems to me to be evident that by care of this kind we may diminish to a considerable extent the greatest of all the sources of mortality after the operation. The remainder of the fatality is divided among a number of minor causes, such as intestinal disorder, chest affections, abscess, phlebitis, &c., but the three causes which have been dwelt upon, and which so

clearly admit of diminution, namely, shock, hæmorrhage, and peritonitis, represent upwards of 75 per cent. of the total deaths after ovariotomy.

Mr. Baker Brown congratulated the author on his great success, and also on his having become a convert to ovariotomy, and hoped that many other hospital physicians and surgeons, who had hitherto opposed the operation, would follow his example. He (Mr. Brown) observed that the author had only mentioned two plans of treatment, namely, tapping simply and tapping with injection of iodine. Besides that of complete extirpation, there was, however, another which he (Mr. Brown) had for many years advocated, and which had received the sanction of many members of the profession, namely, tapping and pressure. This mode of treatment was only applicable to monocystic forms of the disease. He could mention many cases of several years' standing, which had been cured by this treatment. In one particularly, where the lady afterwards married, and has since been delivered by him of four healthy children. In the last year he cured three patients in the London Surgical Home, and there was another, apparently cured, well under observation. He thought that the author had not fairly stated the advantages of tapping with injection of iodine, which in unilocular cysts has been often used with advantage. He had himself reported some cases of cure, as also did Mr. Spencer Wells about two years ago. As regards the administration of opium after the operation, he (Mr. Brown) had, as the author observed, been in the habit of giving opium in all cases, as had also been done by Dr. Clay, of Manchester; but latterly he (Mr. Brown) had been guided in this matter by the pain, proportioning the amount of opium to the severity of the pain, which he regarded as a physiological evil to be removed, if possible. He generally gave it by the rectum, as in many cases it does not cause the same amount of sickness as if given by the mouth. He then alluded to the length of time the ligatures had remained in the abdomen; in one case seven, in another eleven weeks. He thought that this must have arisen from one of two causes—either that they were not tied tight enough, or that too much of the peduncle had been taken up by each ligature. The average time in his experience and in that of Mr. Lane, had been from nine to ten days. He (Mr. Brown) could not agree with the author in his exclusive use of the ligature, allowing the peduncle to drop into the abdomen. The practice that he adopted was to use the ligature where the peduncle was very short, and could not be kept outside the opening without dragging too much upon the uterus; on the contrary, where the peduncle was long enough, he preferred securing it by clamp or otherwise on the outside, as the

wound healed quicker, and the patient was sooner convalescent. The objection to the weight of the clamp was obviated by using a pair of common carpenter's calipers. These could generally be removed on the second or third day. In two cases lately, in which he had operated successfully in the London Surgical Home, he had removed them on the third day. In reference to the sutures, he thought that when the author had tried the silver-wire sutures, he would find them far better than the silk; they were more readily applied, and three or four deep ones were sufficient without the interrupted sutures. He thought that the success of the author was due in a great measure to the fact that none of his cases had been tapped except one, and that only once, as he believed that the best cases for operation were those which had not existed long, and in which the abdomen had not been disturbed by repeated tappings, and the constitution drained by the constant refilling of the cyst. He thought that the paper of the author would do much good towards a fairer trial of ovariotomy, and that the difficulties which the old operators had hitherto had to encounter amongst the great majority of the profession would be materially lessened by the addition of such an authority.

Mr. Spencer Wells said he concurred with Mr. Brown in the opinion that the author had rather undervalued iodine injections in cases of single cysts. He (Mr. Wells) had employed iodine in five such cases, and four of the patients had remained without refilling. In the fifth the injected sac had either refilled or others had grown. In compound cysts he quite agreed with the author in regarding iodine as worse than useless. He differed entirely from Mr. Brown in the opinion that pressure was of use after tapping. Doubtless some single cysts had remained without refilling after this treatment; but tapping alone was quite as useful without as with pressure. The pressure could have no effect on an empty, collapsed cyst. In two cases in which he (Mr. Wells) had been prepared to inject iodine he had trusted to simple tapping, because in each case he found the fluid so clear and limpid that he believed the cyst was not truly ovarian, but one of those thin-walled, simple cysts of the broad ligament which collapse when emptied, and do not fill again, whether pressure be employed or not. As to the position of the patient during ovariotomy, he had tried, in three cases, the sitting posture, as recommended by the author; but he very much preferred the recumbent position. The chloroform was less likely to induce faintness; there was less tendency to escape of intestines, greater facility in securing the peduncle or bleeding vessels, and it was not difficult, by holding the cysts well forward as they are emptied, to prevent the ovarian fluid from entering the peritoneal cavity. He quite agreed with what the author said as to the extent of incision, and partly so as to the mode of securing the peduncle. After

using the clamp in four or five cases, he had abandoned it, except as a very convenient and rapid mode of securing the peduncle for a few minutes while the tumour is separated and the wound closed. Ligatures may then be used below it, and it may be at once removed. In two cases of tetanus, he did not believe the clamp had anything to do with this occurrence. In one case the tetanic symptoms did not appear till the fourteenth, and in the other till the eighth, day after operation; yet the clamps came away on the third or fourth day. The objection to the fixing the peduncle to the abdominal parietes suggested by the author, that increase of the uterus during pregnancy might be interfered with, was not borne out by a case in which a patient upon whom he had so fixed the peduncle had borne a living child thirteen months after ovariotomy. He differed very strongly from the author in his practice of leaving the tied stump of the peduncle within the peritoneal cavity. He (Mr. Wells) had been obliged to do this in two cases out of the twenty-one in which he had operated. One of these patients recovered, but her state was very alarming for some days, and convalescence much more protracted than in any other he had seen. The other died thirty hours after operation, with all the symptoms of putrid infection, and he had no doubt such putrid matter as may be seen to come away when the peduncle is kept outside the wound was absorbed from the peritoneal cavity, and poisoned this lady. The length of time occupied by the separation of the ligature when it was left inside was a great source of anxiety to both patient and surgeon. In some recorded cases it had remained from thirty to forty days; whereas, when fixed outside, it separated in three or four, or at most eight or ten, days, and then the wound healed, and all anxiety ceased. He thought the profession greatly indebted to the author for bringing forward these cases, as they would strengthen the hands of those who were endeavouring to prove that ovariotomy has at least been as successful as several other important operations, and a means of restoring many patients from a state of hopeless suffering to one of perfect health.

Dr. Graily Hewitt thought that the principal point in the paper read before the Society had been lost sight of or passed over by the two gentlemen who had favoured the meeting with their observations. He alluded to the opinion expressed by Dr. Tyler Smith as to the cause of a large proportion of the mortality after ovariotomy, and the best means of combating it. He agreed very much with the conclusions of the author, that in many cases the symptoms and condition of the patient in fatal cases resembled those observed in puerperal fever. With the deduction that it is of vital importance to prevent the patient from being subjected to the action of the deleterious matters introduced from without during or after the performance of the operation, his reading,

experience, and observation, induced him most fully to concur. He believed that the reason that in the general hospitals of the metropolis the mortality after ovariotomy had been so considerable as compared with the results obtained in private practice and elsewhere, was to be found in the fact that this source of danger had been too little recognised: the high mortality in question was hardly to be explained except by this supposition. He was of opinion that on a thorough recognition of the existence of the danger in question, and of the extreme importance of taking all possible means of obviating it, depended the future success of the operation of ovariotomy.

Dr. Tyler Smith said he could assure Mr. Brown that the ligature had in each case been drawn sufficiently tight. He had before his eyes too vivid a sense of the danger of hæmorrhage to omit this. He had not seen any great results from tapping and pressure. He had patiently and carefully tried tapping and the injection of iodine, and had been disappointed. He could give the particulars of twelve cases of injection. In one, death occurred within forty-eight hours. In two others, death took place at longer intervals, from inflammation of the cyst. In only two were the results favorable. In one of these he had lost sight of the patient six months after the operation; the other continued in tolerable health two years after the injection. The rest refilled. He had not seen the evils mentioned by Mr. Spencer Wells as following the use of the ligature. He should be inclined to doubt if the death in the case in which Mr. Wells used the ligature took place in the way he supposed. The time was too short for the occurrence of sloughing and infection of the system. He preferred the sitting or semi-recumbent posture, because it was convenient for the operator, and it rendered the escape of blood or serum from the cavities of the abdomen and pelvis easy. This was a matter of considerable importance. He trusted others would be led to adopt the operation. For himself he would repeat the remark made in the paper, that in the last few months he had done more good in ovarian cases than in the whole of his previous career. He could not before this have pointed to four distinct and positive cases of cure.

March 6th, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—57 Fellows and 10 visitors.

The following gentlemen were duly elected Fellows of the Society:—Thomas E. Edwards, Esq., Gloucester Crescent North, Hyde Park; George Thompson Gream, M.D., Upper Brook Street; Edward Savage Haviland, M.D. Ed., Maida Hill; William Holman Kerby, Esq., Ewell, Epsom; Frederick Pearse, L.R.C.P. Ed., Crockherbtown, Cardiff; Adolphus A. F. Rasch, M.D., South Street, Finsbury Square; Samuel George Sloman, Esq., Farnham; William Daniel Slyman, Esq., Kentish Town; John Tanner, Esq., L.R.C.P. Ed., Ledbury; Richard Turner, Esq., Lewes; John James Tweed, Esq., jun., Upper Brook Street.

Dr. Borham exhibited an apparatus by which an abdominal bandage might be tightened gradually, as occasion required. He also showed a pair of forceps for extracting the secundines, &c., in cases of abortion.

DEFECTIVE FORMATION OF SKIN ROUND THE UMBILICUS; PLASTIC OPERATION.

By Albert Napper, Esq., Broad Oak, Cranley, Guildford.

Mrs. A. E—, healthy and young-looking, the mother of several children, the eldest being more than twenty years of age, was delivered on 23rd January, 1861, of a large, healthy looking boy, which presented the following peculiarities. On each foot was a supernumerary great toe, protruding at right

angles from the head of the metatarsal bone. On each hand was a small additional finger, attached by a thin peduncle to the middle joint of the little finger. The thumbs were very broad, and there being a depression in the middle presented the appearance of double thumbs. Some of the toes, as well as some of the fingers, were webbed. These common and harmless deformities are simply mentioned in connection with a much more serious defect, which, although of not very rare occurrence, is almost always attended with a speedily fatal termination, viz., a deficiency of the integument at the navel, through which, at the time of birth, the contents of the abdomen were protruded into the umbilical cord to the size of a small orange. As the child progressed favorably from day to day and exhibited great tenacity of life, I watched with much interest the result of the decadence of the cord—whether it would separate at its termination on the apex of the tumour or at its junction with the true skin. As the parents lived about four miles from me, by my desire the mother consented to bring the child to our village hospital as soon as she was in a state to bear the removal, and this she did on February 2nd, being ten days after her confinement. The cord was now sloughing off at the margin of the true skin, leaving only a thin, transparent membrane over the hernia, which daily increased in size, measuring at this time seven and three quarters inches in circumference.

On the 4th the child continued in good health with the exception of the thrush, and as there was scarcely a possibility of its surviving long in this condition, with the consent of the parents I undertook to remedy the defect by means of a plastic operation, in performing which I was kindly assisted by Mr. Butler and Mr. Wm. Parson.

At half-past three o'clock p.m., the room being well warmed, the child was placed on a pillow, and a small opening was made through the skin with a bistoury, on the left side of the tumour, which, by the guidance of a director, was carried round the edge of it, just beyond the margin of the true skin, exposing the peritoneal covering. For about

four fifths of its circumference the membrane was perfectly free, but the remainder was so firmly adherent to the peritoneum and its contents that in attempting to separate it the whole contents of the abdomen escaped, comprising the liver (the left lobe of which was adherent to the apex of the tumour), the stomach, intestines and bladder, which were returned with great difficulty, and the edges of the wound brought into contact by means of harelip needles and silk figure-of-eight sutures.

The child did not appear to suffer much, nor was it greatly exhausted. It afterwards took milk and water at intervals (the mother having unfortunately lost her milk on the previous day), and lay in a composed state until two o'clock the following morning, when it died.

It may be questioned whether so severe an operation is justifiable on so young a child. I think in a large majority of such cases it would not be, and that this was an exceptional one. The child had survived thirteen days, and showed great constitutional vigour. The other defects were of little importance, as they could at any time have been removed without difficulty. It was unfortunate that the mother lost her milk just at the time it was most required, but believing that the operation offered the only chance of saving its life, I thought it worth the risk, and avoided further delay, fearing, from the rapid increase of the hernia, the membrane would quickly slough and allow the escape of the abdominal contents.

ON FIBROUS TUMOURS OF THE UTERUS TREATED BY SURGICAL MEANS.

By I. Baker Brown, F.R.C.S.,

SENIOR SURGEON TO THE LONDON SURGICAL HOME.

On December 7th, 1859, I read a short paper before this Society, "On a Case of Fibrous Tumour of the Uterus, illustrating a Surgical Operation for its Cure," and I then

promised at some future time to publish the results of my further experience with that operation, a promise I now propose to fulfil. I, however, shall not now detail the operative measures resorted to, as they have already been sufficiently described in the previous paper alluded to; nor do I intend to enter into the pathology of uterine tumours, my object being to elucidate the success of a particular plan of treatment by an appeal to the results of experience. At the same time, I may add that the lady whose case was recorded in my former paper has continued ever since in robust health. Moreover, to prevent any misunderstanding respecting the class of tumours for which I propose a remedy, I may state that only intra-uterine fibrous tumours of the non-pedunculated form, growing from the inside of the uterus by a broad base, are intended.

CASE 1.—*Intra-uterine fibrous tumour; seven years' duration; operation; cure.*

A. E. E—, æt. 35, unmarried, was admitted into the London Surgical Home, April 14th, 1859; was in a state of great debility and anæmia, with countenance haggard and skin dusky and sallow, and a constant feeling of sinking and prostration, occasional sickness, and pain in the epigastrium; floodings at intervals of a fortnight or eighteen days, lasting for a week at a time.

Her condition had been pronounced incurable, and the only attempts at treatment were of a palliative character. A tumour was perceptible through the abdominal wall, and, on a vaginal examination, a large, fibrous tumour, as big as a fist, was found within the uterus.

Having brought about some improvement in her general health, I proceeded, on the 26th of May, to perform the preliminary operation of incising the os uteri. From this time the uterine hæmorrhage ceased; menstruation, however, recurred every three weeks, and was slightly in excess.

On July 21st I sent her away into the country to gain strength, and it was not till after the lapse of five months that she returned to London to have the operation com-

pleted. On October 27th I proceeded to destroy the tumour, according to my usual plan, by cutting or gouging out a piece from its centre, and so provoking suppurative inflammation. The breaking up and dissolution of the tumour in the form of a muco-purulent discharge followed, and, as has happened in other cases, there was a periodical aggravation of pain about the uterus every three weeks, corresponding with the accession of the catamenia, but diminishing in intensity as that discharge progressed, and decreasing also at each succeeding menstrual period, until it at length ceased altogether. This pain was doubtless due to the increased determination of blood towards the uterus during the catamenial function.

By February, 1860, the discharge had ceased; the uterus had regained its normal dimensions, and all the symptoms of the tumour had disappeared. Her health had simultaneously improved greatly, and on the 21st of the month she was discharged cured.

I have since heard several times from her; she is in vigorous health, and capable of taking active bodily exercise without pain or bearing down. Menstruation also is now quite natural both as to time and quantity.

Case 2.—*Intra-uterine fibro-cystic tumour; relief.*

C. W—, æt. 30, admitted into the London Surgical Home, May 19th, 1859.

History.—Is married, and the mother of three children. After her first confinement she observed an excessive uterine discharge of a red colour, and containing clots of blood; this continued for three months uninterruptedly. Her labour had been very severe, and terminated by instruments. Her child had only reached the eighth month of fœtal life, and was supposed to have been dead four days before delivery. After the discharge ceased she again became pregnant, and the hæmorrhage did not reappear until after her second confinement. She enjoyed good health until sixteen months after this time, when she weaned her child; the discharge

then recommenced, and lasted about four months. She again conceived, and about the fourth month suffered from a severe loss, which lasted one day and night. She then continued well until her third confinement, since which she has suffered continuously from a severe discharge, rendering her quite anæmic, and so very weak as to be unable to walk. About two years after giving birth to her last child she felt a tumour in the abdomen, which gradually increased. She has been under much medical treatment, and has been salivated, blistered, &c., without the slightest benefit. On admission I examined her, and found her very weak and pale. There was a large quantity of white discharge from the uterus, and this organ could be felt from above, enormously enlarged, sometimes rather harder than at others, and rather tender on pressure. She was put on tonic treatment, and the uterus was rubbed for ten minutes every morning. By these means the leucorrhœa soon disappeared.

July 2nd.—Had an attack of hæmorrhage, for which gallic acid was given, and the vagina plugged with ice; but in spite of these measures it continued, more or less, for nine days, and reduced her strength very much.

October 1st.—Left the Home, not having had any more hæmorrhage, and being much stronger and better. Menstruates regularly.

May 27th, 1860.—Readmitted; very weak and almost bloodless. After admission she became insensible, and remained so four hours. She was brought round by liberal doses of port wine, &c. Her history, since she left the Home, was as follows:—From October, when she left, till February, she was pretty well, with the exception of a very bad cough. In February, after a menstrual period, she suffered much from hæmorrhage, and lost, at one time, three pints of blood. The hæmorrhage recurred every eight or nine days till the time of her admission, when she was in the state mentioned above. Ordered steel and port wine freely.

June 24th.—She has been rapidly improving till the last week, when severe hæmorrhage came on again.

July 2nd.—On examining the os uteri I found it was patulous, and the tumour could be felt just inside it.

5th.—I divided the lips of the os with guarded scissors, and plugged the vagina with oiled lint. There was very little bleeding.

11th.—Is going on very well, and seems relieved by the operation.

21st.—There has been slight bleeding, but nothing like that on former occasions.

26th.—I introduced a pair of sharp-pointed scissors, and broke down the tumour in several places. The patient was not under chloroform.

27th.—Very comfortable; no pain, nor sickness.

August 9th.—Still very comfortable, but feels weak. Ordered port wine, brandy, good soups, &c., and tonics. The abdomen is an inch and a half less in circumference than before the operation. The tumour is breaking down, and passing away in lumps, with an offensive discharge from the vagina.

17th.—Has lost much blood, which came away with purulent and broken-up fibrinous matter from the womb, rendering her very weak.

21st.—Symptoms of pyæmia set in, but under the administration of chlorate of potash and bark, with good, nourishing diet, they passed off in about a week's time, leaving her very weak.

28th.—Tumour, as felt from without, much smaller; appetite and general health improving.

September 27th.—Lost a great deal of blood from the womb; the hæmorrhage lasting twenty-four hours. Ordered bark and acid. She gradually got stronger and lost no more blood, and on November 27th she menstruated, there being only a normal amount of discharge.

December 10th.—She left the Home; her general health is very good, and she can get about with comfort. The tumour can still be felt, but is exceedingly diminished in size, and causes her but little inconvenience.

February, 1861.—The patient is now in good health. She

has gained flesh and strength, has a healthy complexion, and can perform her domestic duties and take exercise as well as before the first appearance of her disease. Twice since her return home she has had some return of hæmorrhage, but not enough to confine her to the house. Very probably she may be obliged to have the tumour again gouged, still her improvement has been very great.

CASE 3.—*Intra-uterine fibrous tumour; operation; death.*

J. M—, æt. 46, unmarried, was admitted into the London Surgical Home, November, 1859. Has suffered from a fibrous tumour of the uterus for twelve years, which has gradually increased, and is now as large as a six months' fœtal head. It causes her great uneasiness and pain in her back, with dragging, frequent desire to pass water, and an inability to sit up for any length of time.

On examination I found the hymen almost imperforate, and the os and cervix uteri unaltered from their normal character.

November 19th.—I operated in the presence of Dr. Hall Davis, Mr. Charles Mann, and Mr. Philip Harper, dividing the os and cervix uteri. Having done this, I was able to make out the presence of a fibrous tumour, imbedded in the left side of the uterine wall, and extending as low down as the os internum. I next cut into the tumour and gouged out a portion from its centre, breaking down the tissue around as much as possible. Lastly, I plugged the vagina with oiled lint. There was very little bleeding.

20th.—Has had some rigors, and complains of pain in the abdomen. Twelve leeches were at once applied and a dose of gray powder, with Dover's powder, given.

21st.—The rigors have recurred twice. Gave at 2 p.m. three grains of quinine, and repeated the dose at bedtime and once during the night. Pulse 120 and soft.

22nd.—Has passed a good night without opiates; the pain in the abdomen has gone. From this time symptoms of pyæmia progressed, pus was effused within the pleura, and she died on the tenth day after the operation. A post-

mortem examination was made, and general purulent infiltration discovered.

The fatal termination of this case is attributable to the introduction of pus into the circulation through one of the recently cut surfaces. To avoid so unfortunate an event for the future, I have made it a general rule to divide the operation into two parts—one consisting in excising the os and cervix uteri, and the other (carried out when the preliminary incisions have healed, as, for instance, at the end of two or three weeks) consisting in making the incisions into the tumour itself, with a view of setting up suppuration.

Case 4.—*Intra-uterine fibrous tumour; operation; cure.*

E. B—, æt. 41, married, no children, admitted into the London Surgical Home February 18th, 1860.

About four years ago she first began to suffer from debility, caused by continued flooding, which has continued up to the present time. On examining the patient I found her pale and weak, with a large fibrous tumour of the uterus.

February 27th.—I slit up the lips of the os uteri, the patient being under chloroform, and plugged the vagina with oiled lint.

March 2nd.—Has an attack of decided jaundice, which commenced two days after the operation. For this she was treated with three-grain doses of calomel, followed by a senna draught, every other day, for about a week. When she began to get better, her skin clearing, appetite improving, and strength increasing, ordered tonics.

April 17th.—The menses appeared, and on the 18th hæmorrhage came on, which continued for three days, but was lessened by ten-grain doses of gallic acid, given every four hours, and ice applied to the vagina.

May 7th.—The patient having much improved in health and strength, I made a free incision into the centre of the tumour, and plugged the vagina with oiled lint.

12th.—Catamenia appeared, followed by considerable hæmorrhage, which did not cease entirely for three days. For two or three weeks after the operation there was a bloody and offensive discharge from the uterus, and the tumour gradually lessened in size.

June 26th.—Catamenia appeared, not much more than normal in quantity. The patient has much improved in health and strength.

July 7th.—She left the Home, the tumour being very much less in size, and her health much better and stronger than on her admission.

I have since heard from her that she is now in good health, can take exercise without pain or annoyance, and has no return of the hæmorrhage.

Case 5.—*Large intra-uterine fibrous tumour, with great displacement of the uterus; operation.*

Mrs. M—, æt. 35, was sent to me by Messrs. Alfred Cooper and Paget, of Leicester, and admitted into the London Surgical Home November 16th, 1860.

Is a widow, was married eight and a half years, but had no children. For the last five years menstruation has been regular, but has gradually increased in quantity, and for the last three years she has lost much blood at each period. About two years ago she first discovered an enlargement of the womb, and for the last few months this has increased rapidly. After each menstrual period she has suffered from a white, watery discharge. Although her disease has not caused her much pain, she has been greatly reduced in strength, and has suffered from palpitation of the heart.

On examination, the uterus was found completely retroverted, the os being tilted so close against the pubes that it was impossible to reach it with the finger or any bent instrument; within it a large fibrous tumour could be felt, filling up the whole pelvic space, and of about the size of a fourth month's fœtal head. This tumour could also be distinctly felt through the abdominal parietes. On passing the finger

into the vagina there was a distinct sensation of fluctuation on pressing the posterior wall of the uterus, arising from accumulation of menstrual fluid and blood between it and the fibrous mass. This arose from the fact that the os being situated higher up than the fundus, the whole of the secreted fluid could not escape. This feeling of fluctuation was of great diagnostic value in showing that the tumour was attached to the *anterior* wall of the uterus.

November 29th, 1860.—The patient being placed under chloroform, I proceeded to operate in the presence of Messrs. Alfred Cooper, Paget, and many other gentlemen. Finding that it was impossible to reach the os, I made an incision through the posterior wall of the uterus, which was very thin, and let out a quantity of fetid, sanguineous fluid; the incision was then carried carefully down nearly to the fundus and up to the os with a blunt-pointed bistoury. The fibrous mass could now be seen, and felt to be growing from the anterior wall of the uterus, and extending from os to the fundus. Oiled lint was introduced into the wound, and the vagina plugged with the same. The lint was removed after two days, and on examination a few days later the cut surfaces were found completely united to the tumour. These adhesions I broke down with my finger, and covered the torn surfaces with oil.

December 29th.—I freely gouged the tumour, and from this time there was considerable diminution of its size.

January 24th, 1861.—I again gouged the tumour, as it had not disappeared sufficiently rapidly. After this operation there was considerable pain and swelling of the tumour, succeeded by much muco-purulent, sanguineous discharge, and the tumour decreased to about half its original size. Since the first operation the patient has only menstruated once, and then the quantity was not more than natural.

February 7th.—As the tumour had not disappeared I again gouged it, the operation being followed by the same results as on the last occasion, and I have no doubt that the tumour will entirely disappear in a short time.

CASE 6.—*Three intra-uterine fibrous tumours; operation; cure.*

E. P—, æt. 37, unmarried, has long suffered uterine derangements. About seven years ago I removed from the os uteri a fibrous growth of the size of a walnut, and five years afterwards she complained of uterine pains, with bearing down, and a very free hæmorrhagic discharge at every menstrual epoch. A year ago I had a consultation with Dr. Ferguson on her case, when we diagnosed distinctly the existence of three fibrous tumours just within the os uteri, but projecting into the vagina, and painful to the touch.

January 15th, 1861.—I freely divided the os and cervix uteri, and then cut deeply into each of the three tumours, dressing the cut surfaces and plugging the vagina with oiled lint. After forty-eight hours the lint was removed, and to cleanse the vagina from the irritation of the ichorous discharge I ordered an injection to be used daily.

February 15th.—On examination, two out of the three tumours are no longer perceptible, and the third has not half of its original size. There is, therefore, no doubt that in a short time the whole of the morbid growths will have disappeared, and that there will be a complete cure. Since the operation there has been no recurrence of hæmorrhage from the womb.

The reasons why I did not divide this operation into two parts were that the os and cervix were patulous, and I could therefore easily reach the tumours, and I thought I might fairly consider this case an exception to the general rule.

Remarks.—The cases related have been selected from the case-books of the institution with which I am connected, and have consequently been under the observation of other practitioners, who have watched the operations and treatment pursued. I could have added others derived from my private practice, but those given suffice to show—

First. That intra-uterine fibrous tumours of the non-

pedunculated form may be destroyed by a surgical operation, viz., by cutting into and destroying a portion of their tissue; in other words, by gouging a portion out.

Secondly. That this operation may be performed successfully and safely. Out of the dozen and more cases in which I have practised it, I have lost but the one which I have narrated in the present paper, a circumstance explicable as an accident.

Thirdly. That the preliminary division of the os and cervix uteri, in order to reach the internal tumour, has in itself the very important advantage of nearly or quite arresting the uterine hæmorrhage, which is the most serious symptom attendant on uterine tumours.

I shall add a few observations on what has been done for these intra-uterine tumours by other surgeons. In the 'American Journal of Medical Sciences' for April, 1845, the notes of a case related by Dr. Atlee have been kindly looked out for me, in which that well-known and able surgeon removed a fibrous tumour growing from the exterior of the uterus, by an incision as for ovariotomy through the abdominal wall. The patient did very well; and in his comments on the operation Dr. Atlee takes the opportunity to contrast the successful and speedy result of his case with that arrived at, tediously and painfully as he intimates, by a Dr. Walker of America, whose case was one of a large, fibrous tumour growing from the uterus, and the plan pursued was to introduce a large trochar and canula through the abdomen into the morbid growth, and to leave the canula so as to induce inflammation and the adhesion of the tumour to the parietes. When this was effected he reintroduced the canula, so filled with springs as to retain it firmly in the abdominal aperture. Here it was allowed to remain for several months, in the course of which the tumour underwent a considerable reduction in size, but was still, when Dr. Atlee wrote, perceptible, and the fistulous opening in the abdomen remained patent.

In the same journal for October, 1856, a case is related by Dr. F. Hinkle, treated under Dr. Atlee's direction,

where the os uteri was divided in order to bring an intra-uterine tumour into view, a guarded bistoury introduced and plunged into the growth. Ergot of rye was administered, but as the tumour did not decrease the incisions were repeated, and then the finger was introduced and moved about in the mass so as to break up its tissue as much as practicable, and to detach the whole growth from the wall of the uterus. The patient ultimately died. From inquiries I have made respecting Dr. Atlee's teaching and practice from those who have seen him operate, I learn that Dr. Atlee contents himself with making an incision into the tumour, giving ergot afterwards, with the object of promoting its expulsion from the uterus, by the process, as it has been termed, of enucleation. There is, therefore, a general resemblance between Dr. Atlee's practice and my own, but whereas it seems that gentleman contemplates the detachment and removal of the tumour by an incision through its capsule, and to second his purpose gives ergot of rye, I on the other hand aim at the disintegration of the morbid growth by cutting into its centre and breaking down the surrounding tissue, so setting up a destructive process akin to ulceration, and making no attempt to separate its body from the uterine wall.

Immediately after the paper had been read Mr. Brown showed the instruments which he had been in the habit of using in the operation described in this paper. They very much resembled an ordinary centre-bit, twisted in a spiral manner, with various cutting ends. He had experienced great difficulty in getting these instruments to hold, so as to gouge a piece quite out, and had thought something was required to hook the tumour while it was being cut. This idea had been very ably carried out by his friend and colleague, Mr. Philip Harper. This gentleman's instrument consisted of a hollow tube of steel, with cutting knives. Contained in this tube was a hook, which could be pushed through by a spring, and thus grasp the tumour, whilst the circular knives were carried through it by means of a screw.

In this way a piece was actually cut out of the tumour. The instrument was graduated, so that by measuring the tumour from without, a pretty correct estimate could be formed as to how far the tumour was cut into.

An animated discussion followed, in which Dr. Hall Davis, Dr. Graily Hewitt, Dr. Routh, Dr. Tanner, Dr. Oldham, and Dr. Richards took part.

Mr. Brown replied to the various speakers, and dwelt upon the fact that these operations had been performed in the Surgical Home, with the concurrence and assistance of some or all of his seven colleagues, and particularly of that of Dr. Hall Davis, who had confirmed the truth of these cases during the discussion. Mr. Brown alluded to the fact that the practice of the London Surgical Home was open to every member of the profession.

ON UTERINE HÆMATOCELE.

By Henry Madge, M.D.

The subject of uterine hæmatocele cannot as yet be said to be familiar to English medical practitioners. The first recorded case occurring in this country is, I believe, that related by Dr. Tilt, in his work on 'Diseases of Women,' published in 1853; but as the case fortunately terminated successfully, in a pathological point of view it must be considered incomplete. Subsequently Drs. West and Simpson drew attention to the subject in their lectures and writings. Mention is made by them of cases which came under their own observation; these cases, however, are all more or less incomplete, either from not having been brought under medical treatment at an early period, or from being unaccompanied by details of post-mortem appearances. Although the notices of this new and strange affection, as it has rather unphilosophically been termed, have been meagre in our own country, it has not been so in France. In Paris, during the last ten years, it has been made the frequent theme of theses, books, and discussions.

At the present moment the leading and to some extent

rival French authorities on the subject are MM. Bernutz and Goupil[1] and MM. Nélaton and Voisin.[2] M. Voisin was formerly a pupil of M. Nélaton, and is now generally considered to be the exponent of that professor's views on uterine hæmatocele. Although isolated cases of a somewhat similar nature may be found in medical writings, old and new, the modern ventilation of the subject is principally due to MM. Velpeau[3] and Bernutz. M. Nélaton has doubtless amplified it still further, and in the year 1850 he professed to have discovered a new disease, which, from the circumstance that the accumulation of blood is generally found behind the uterus, he named "retro-uterine hæmatocele." M. Bernutz, in his work recently published, has made out a good claim to priority in the matter. His observations were published first in 1848.[4] He prefers the term peri-uterine hæmatocele, because the blood may be found around any part of the uterus. Moreover, he does not consider it a disease, but a symptom of disease, in the same way that hæmoptysis is a symptom of disease in the lungs.

Hæmorrhage into the peritoneal cavity from the uterus or its appendages has been divided into two principal or primary forms, the "encysted" and the "non-encysted;" the latter is generally caused by large quantities of blood suddenly proceeding from ruptured varicose ovarian veins, and death takes place either almost immediately from collapse and loss of blood, the conditions being in some respects similar to those of perforation of the stomach, or within a few hours, from general peritonitis and hæmorrhage combined. One of these two occurrences also happens in cases where the cyst of an extra-uterine pregnancy suddenly gives way; indeed, it has sometimes been difficult to decide whether the case was one of extra-uterine fœtation, the cyst

[1] 'Clinique Médicale sur les Maladies des Femmes,' par MM. Bernutz et Goupil, Paris, 1860.

[2] 'De l'Hæmatocele Retro-uterine,' &c. &c., par M. Voisin, Paris, 1860.

[3] 'Recherches sur les Cavités Closes,' Velpeau, 1843.

[4] 'Archives Gén. de Med.,' June, 1848.

having given way, or of internal pelvic hæmorrhage from one of the more ordinary causes. The encysted form is caused as follows:—When there is only a gradual oozing of blood from the ovarian vessels or the Fallopian tubes, it slowly makes its way into the recto-vaginal cul-de-sac of the peritoneum; local peritonitis is set up, parietal and visceral; time is afforded for the effusion and organization of lymph; and the contents of the cul-de-sac becoming encysted, a hæmatocele is formed.

M. Voisin uses the term "retro-uterine hæmatocele" in a rather exclusive sense—"The blood must be within the peritoneum, and its source some part of the uterus or its appendages." M. Bernutz is quite as exclusive in the use of the term, but he admits the possibility of an accumulation of blood outside the peritoneum, in the cellular tissue of the broad ligaments, or of the pelvis generally; when, however, that happens, he calls it a thrombus, or, according to its situation, designates it by some other name. By making out an analogy between the recto-vaginal fold of peritoneum in the female, and the tunica vaginalis in the male, M. Bernutz maintains that true hæmatocele can only take place within the peritoneum.

In Dr. Simpson's lectures, published in the 'Medical Times and Gazette' for 1859, there is related a case of uterine hæmatocele, illustrated by a drawing, in which the peritoneum is represented as having been carried above the hæmatocele. Dr. Simpson, in all his remarks, appears to be thinking chiefly of the extra-peritoneal form, and he distinctly speaks of that form as constituting true uterine hæmatocele. Now, there is evidently a wide difference of opinion here, which I must leave the learned professors to settle between themselves. The occasional existence of the extra-peritoneal form of uterine hæmatocele is believed in by many able French physicians; some of them profess to be able to diagnose the *intra* from the *extra* during life. They speak of extra-peritoneal hæmatocele as the less serious affection, of the tumour forming it descending lower in the pelvis, being attended with less acute symptoms and more amenable to treatment.

Respecting the immediate source of the hæmorrhage in eight of the cases of uterine hæmatocele, in which it could be discovered, M. Voisin found that in six it came from the ovarian vessels, in two from the Fallopian tubes. Out of sixteen cases of the non-encysted form of internal pelvic hæmorrhage, in six the blood was found to have come from the ovaries, in three from the uterus, in four from the Fallopian tubes, and in the remaining four from varicose ovarian veins. From these and other statistics the conclusion is arrived at, that the majority of cases are caused by hæmorrhage from the ovarian vessels at the menstrual periods.

Among the predisposing causes are—1st. A general tendency to varicose veins. 2nd. Tight-lacing, which, by pressing upon the abdominal vessels, is justly considered to be capable of producing a varicose condition of the ovarian plexus of veins, a condition analogous to varicocele in the male. 3rd. Menorrhagia, from the probability that the excessive congestion of the uterine system would attempt to relieve itself by oozing through some channel or membrane, even the peritoneum itself, into the peritoneal cavity. 4th. An excess or a diminution of fibrin in the blood. 5th. Retention of the menstrual fluid from congenital malformations or from morbid changes of structure. Of the latter causes M. Bernutz relates several instances. 6th. Constipation. Some of the exciting causes are—1st. Exertion during the menstrual flow, or too soon after confinements or miscarriages. 2nd. Coitus during the menstrual period. Several cases, related by M. Voisin, are dated from this occurrence. 3rd. Shock or fright during coitus; and hence it has been observed to occur oftener among those who indulge in illicit intercourse than those who lead regular lives. It has also been observed to occur with the greatest frequency about the age of thirty, that being the period of the greatest sexual vigour. With these few remarks, gleaned principally from French and German authors, with the view of making my communication more intelligible and useful, I shall now relate a case happening in my own prac-

tice, which will be found to come strictly within M. Voisin's definition of true "retro-uterine hæmatocele."

On October 27th, 1860, I was called to see Mrs. L—, who was stated to be dangerously ill. She was thirty-four years of age, had been married thirteen years, and was the mother of three children, the eldest being now eleven and the youngest six years of age. Her health had been generally good; complexion fair; hair light auburn; face of a good, healthy colour; moderately tall and stout; of a sanguine temperament, and anxious and energetic in the performance of her ordinary duties. About six years ago (1854) she nearly lost her life from secondary fever, with peritoneal symptoms, following a severe attack of Asiatic cholera; subsequently she got quite well, and up to the present period has had no further illness. Has not been pregnant since the attack of cholera. Catamenia always regular, but latterly more abundant, and lasting over a longer period than usual. On the evening of the above date, the menstrual discharge having existed two days, she was seized with violent pains in the hypogastric region, which continued throughout the night and the following day. This was treated as an attack of local peritonitis, and appeared to yield to the influence of opiates, rest, leeches, turpentine, and linseed-meal poultices. In a few days she was so much better that she was ordered tonics and a generous diet. The catamenial discharge had continued during the attack, and now seemed to be gradually disappearing. She got up, and appeared to be doing well, when, quite contrary to my wishes and instructions, on November 5th, she went out for a walk, some friend having told her a walk would do her good. She was brought home in a cab, apparently in a dying condition; face and lips pale; surface of body cold; pulse scarcely perceptible; consciousness imperfect. She seemed to be in that kind of delirium which is experienced from loss of blood, with shock to the nervous system superadded; in fact, she was in a state of collapse. I was told that after she had walked a short distance the catamenial

discharge suddenly returned in increased quantity, when she immediately complained of a feeling of faintness, and was obliged to be assisted into a cab. The discharge per vaginam, after she got home, was very slight, and ceased altogether during the night. The state of collapse continued until the following day.

November 6th. Mr. Newton, of Fitzroy Square, saw the patient with me. There was now evident fulness and signs of peritonitis in the lower part of the abdomen, and more particularly in the right iliac region; face pale and anxious; lips nearly bloodless; pulse quick and weak; sickness constant; abdominal pain and tenderness extreme. Ordered: blister over lower half of abdomen, and calomel and opium every two hours.

7th.—Reaction has become established; skin hot and dry; rejects everything in the shape of food or medicine; pain and tenderness unabated; tongue becoming parched; great thirst; bowels constipated; consciousness perfect; countenance expressive of great anxiety; pulse 130. The fulness in the hypogastric region has now become a prominent and well-defined, rounded tumour, more central in its situation, and extending nearly to the umbilicus; as it has somewhat the size and appearance of a distended bladder, used the catheter, but found the bladder all but empty. Ordered: linseed-meal poultices to the blistered surface, castor-oil enemata, and a mixture containing opium and prussic acid to allay pain and sickness.

8th.—Has had a better night; bowels well relieved; sickness abated; pain less; fever and thirst continue; urine scanty and loaded with urates; pulse 120. Abdominal tumour hard and excessively tender to the touch. On examining per vaginam, the tumour is also found occupying the pelvis, extending to within about three inches of the vulva; the posterior wall of the vagina bulges forwards in all directions, so much against the anterior that at the upper part of the canal it is difficult to pass the finger; the os uteri is closely pressed up behind the symphysis pubis, the uterus being completely retroverted; lips of os uteri thin

and patulous, readily admitting the tip of the finger. On examining per rectum, the tumour is found to occupy the whole of the posterior part of the pelvis, the rectum itself being flattened by its pressure; it feels hard, uneven, and unyielding, and is traversed by small, cord-like processes, without pulsations, probably enlarged veins. On examining per vaginam and per rectum at the same time, no fluctuation can be discovered in the tumour, nor can any be observed by the "ballottement" process. There is no tenesmus and no frequent desire to empty the bladder, nor do either the rectal or vaginal examinations give pain whilst the examinations are being made, although considerable pain is sometimes felt by the patient soon afterwards. To continue the medicines and poultices.

9th.—Feels better; pain and fever less; sick only at intervals; has a slight inclination for food; aspect perfectly anæmic; bowels and bladder acting regularly, and without pain; pulse 100. In a few days the acute symptoms subsided, leaving the abdominal tumour, now getting less painful, about the size of a full-grown fœtal head, the recto-vaginal swelling remaining unaltered.

The diagnosis of the case was comparatively easy; the rapid appearance of the tumour, the grave symptoms which accompanied its formation, and its connection with the menstrual period, would enable any one tolerably well-read in writings on the subject, even without having seen a similar case before, to form a correct opinion as to its nature. I mentioned to some of my friends that I was attending a case of uterine hæmatocele, and that, guided by the best authorities I could find, and also by some peculiarities of the case itself, I was adopting the expectant plan of treatment. Among others, Dr. Tanner recommended me to persevere with that plan, and he at the same time expressed an opinion that "opening the tumour to let out its contents would be something like turning out a clot from an aneurismal sac and allowing the patient to die from hæmorrhage."

On the 18th, the patient's general health having improved, and the abdominal tumour having become rather smaller and harder, she had during the night a copious discharge per

rectum of a dark fluid resembling "coffee-grounds," apparently altered blood; the bed-linen was saturated with it, but she was unconscious as to when it came away or where it came from. As the discharge of blood through the rectum is one of the means by which nature attempts to effect a cure in cases of uterine hæmatocele, I had been looking forward to such an event rather hopefully, thinking it would probably form the "turning point" in this case. I was disappointed, however, to find that the abdominal tumour was rather larger than before, and the only difference in the vaginal swelling was that it felt softer, and by pressing through it on the left side I thought I could feel the body of the retroverted uterus. Although this was not the menstrual period, and no discharge had shown itself per vaginam, the patient's pallor and lowered pulse indicated that there had been some accession of internal hæmorrhage. Immediately following the above occurrence the patient experienced for several days a constant discharge per rectum, of mucus, like white of egg, showing that the mucous coat was undergoing excessive irritation; afterwards a great deal of pus came away through the same channel, probably from suppurative inflammation having been set up in the sac from which the blood had discharged itself. Notwithstanding the great amount of mischief in the rectum and its vicinity, there was no tenesmus, and the bowels and bladder still acted regularly and without pain. For some little time the tumour remained stationary and free from pain. On being handled it conveyed the idea of a round, hard mass, something like the contracted uterus shortly after delivery. Among other applications, belladonna and mercurial plasters, as recommended by Dr. West, were used; mercurial frictions were also freely employed. From the employment of these means, however, there was no perceptible advantage derived. In the mean time the general health but slightly improved; there was occasional nausea; appetite capricious; she was able to sit up, and did so on two or three occasions. During the earlier part of the illness the sitting posture was painful and difficult to maintain, lying on either side was attended with nearly

the same amount of inconvenience, so that she generally preserved the "dorsal decubitus." About a month from the commencement of the illness the catamenia appeared, and flowed freely for two days; on the second day of its appearance many of the bad symptoms which were present at the onset again showed themselves, the anæmic condition, partial collapse, and pain in and around the abdominal tumour, being the most prominent. It was again evident that an accession of internal hæmorrhage had taken place, but it did not this time appear to affect materially the size of the abdominal tumour. The patient soon rallied, and all pain subsided, but she was now much wasted and changed in appearance; the skin, from being clear and white, had changed to a whitey-brown or dirty-yellowish hue; face of the same uniform morbid hue, and much attenuated; the change of colour came on gradually; first, there was the anæmic whiteness, and then the gradual discoloration. This peculiar appearance of the skin, simulating that which is considered to be pathognomonic of malignant disease, has often been observed in cases of uterine hæmatocele, and is supposed to be due to the presence in the system of degenerated or altered blood.

During the next fortnight, notwithstanding many drawbacks, some changes were taking place in the patient's condition for the better; the appetite was improving, the tumour was still stationary and free from pain; secretions and excretions tolerably healthy and regular; she slept well without anodynes, and began to be hopeful, and in tolerable spirits, when phlegmasia dolens, in a severe form, attacked the left leg; the right leg became gradually affected in the same way, but the attack was milder in every respect than on the left side. The suffering, anxiety, and restlessness attending this double seizure, completely prostrated the patient's powers. When the next menstrual period arrived there was a slight discharge per vaginam during one day; but on the following day, she was seized with, what was said by the attendants to be a severe attack of diarrhœa but in reality, a profuse discharge of altered blood and clots per rectum. This dis-

charge continued two days, and must have amounted to three or four pints; the abdominal tumour speedily disappeared, extreme prostration came on, and she died on December 28th.

Post-mortem examination, twenty hours after death.—The upper part of the body much wasted, skin of a tawny appearance; features pinched and sallow; breasts wasted and flaccid; abdomen quite flat, affording no signs of the tumour; left leg and foot much swollen, and of a pearly appearance; thigh reduced to nearly its natural size, although during life it had been almost as large as the patient's body; right lower extremity affected in the same way, but to a less extent; both legs, on making small incisions, presented the subcutaneous transparent gelatiniform condition common in such cases.

Abdomen and pelvis.—On opening the abdomen, the omentum, completely deprived of fat, was found fixed by its lower border to a mass of small intestines, matted together by inflammatory adhesions; the thinned omentum formed a partially transparent covering or network over those portions of the intestines which remained free. On tearing away its lower edge, and further manipulating with the mass of intestines tied together by adhesions, I found that the lower surface of the mass formed the roof of a large cavity, which seemed to occupy the greater part of the pelvis. From this cavity, which constituted the hæmatocele, a clot of blood was taken weighing six ounces; it was lying at the bottom of the sac, and had the appearance of being recent and unaltered; about a pint of blood was also sponged out. (The clot and the blood were exhibited at the last meeting.) In using the sponge several small clots, some recent and some old, were found adhering to it each time of its removal from the cavity. This was also noticed and remarked upon by Mr. Newton, who was present at the examination. The hæmatocele itself was bounded in front by the posterior surface of the uterus and the broad ligaments, behind by the rectum, above by the intestines agglutinated together, and on all sides by the peritoneum, being, in fact, the utero-

vagino-rectal cul de sac of the peritoneum, distended and altered by diseased action. The cæcum and the sigmoid flexure were involved in the adhesions binding the intestines together. The interior of the cavity of the hæmatocele was of a dark leaden hue, very different from the ash-gray colour often met with in old cavities, or the melanotic condition induced by the presence of altered blood. The same dark hue pervaded nearly all the intestines. I attributed it to the action of decomposed matter on the lead which had been administered freely in solution, by mouth and by rectum, to arrest hæmorrhage. The walls of the cavity further presented a shreddy, uneven appearance, as if from irregular deposit of lymph and fibrine; laterally, the walls were half an inch, or even more, in thickness, and becoming hard and cartilaginous. In some places long bands of false membrane, well organized, were hanging loosely. One large band divided the whole sac into apparently two equal parts, and through this band or septum there was an opening about the size of half-a-crown. It was the giving way of this band (which had hitherto secured the contents of the upper portion of the hæmatocele) that appeared to have been the immediate cause of death. At the upper part of the left broad ligament there was an opening, with rather ragged edges, about the size of a fourpenny-piece, on one side communicating with the capsule of the left ovary and on the other with the upper division of the hæmatocele lying behind it. This had evidently been one of the sources of hæmorrhage.

Left ovary.—The capsule of the ovary was distended to about the size of a small orange; its interior was divided into two distinct cells, one much larger than the other, by a thick, firm band of false membrane, and each cell contained blood and clots. The small opening at the upper part of the broad ligament communicated with the smaller of the two cells; the other cell had a much larger and more irregular opening of communication with the lower part of the hæmatocele. A small portion of ovarian substance or stroma, apparently healthy, though in a state of congestion,

and covered by a corresponding portion of capsule, was all that remained of the ovary.

Right ovary.—No opening could be found in the right, broad ligament, but behind the right ovary there existed (and still exists in the preparation) a firm mass of liver-coloured false membrane and fibrin, which seemed to be inseparable from the peritoneal covering. The ovary itself was congested and enlarged, and fixed in its position by adhesions. The stroma was healthy; on cutting into it, five or six small clots of blood shelled out of little cavities—distended Graafian vesicles. One of these was larger than the others, and contained a clot about the size of a pea; another, near it, appeared to have only recently closed up, and formed a well-marked cicatrix. The clots did not vary much in appearance; according to the common theory, some should have been older and more altered by absorption than the rest; this was certainly not at all evident.[1] A few healthy vesicles were also seen, containing transparent fluid. All the coverings of the ovary were thickened, and particularly the posterior portion, which helped to form the anterior wall of the hæmatocele. It was here, probably, that, from congestion of the ovary and distension of its capsule, an exudation of blood took place, which, becoming blended with inflammatory lymph from the peritoneum, and with fibrin deposited from the blood contained in the hæmatocele, gave rise to the liver-coloured mass I have just mentioned. The capsule of this ovary did not, as on the left side, become distended with blood, so as to cause it to burst, but only to exude blood.

Uterus.—The uterus was slightly enlarged; mucous lining a little thickened, and at its lower part striated with blood-vessels, having somewhat the appearance of an incipient decidua, an appearance not uncommon to the menstrual period; there was no glutinous matter in the neck,

[1] I have since found it stated by some authors, that when blood gets into the vesicles from permanent or general congestion, the coagula in question present appearances such as I met with, but when from periodic congestion, the form and contents of the vesicles vary.

nor did the latter wear any of the appearances common to pregnancy.

Left Fallopian tube.—Totally impervious. *Right Fallopian tube.*—Closed at the ostium uterinum, pervious to the extent of half an inch at its fimbriated extremity, which was enlarged, but shut out from the cavity of the hæmatocele. *Broad ligaments.*—Very much thickened, and of course opaque; this was partly owing to false membrane from internal peritonitis, and therefore on the inside of the hæmatocele and of the posterior layers, and partly from the same inflammatory product deposited between the two layers of the ligaments, from external peritonitis, and therefore outside the hæmatocele.

The *bladder* and the *vaginal canal* appeared to be quite healthy.

Rectum.—When laid open, was observed to be very dark from congestion; this rapidly shaded away above into a healthy condition, but below continued to its lower extremity. In the midst of the darkest patch, in the upper third of the rectum, and nearly on a level with the normal position of the os uteri, there were two irregular transverse openings, in a line with each other; the breach in the mucous coat, apparently the result of slow ulceration, was about three quarters of an inch in length, and seemed to be common to both openings; a portion of the other coats, several lines in extent, separated the two openings; the latter opened directly into the cavity of the hæmatocele. When the parts were removed *en masse* from the body, water poured into the sac of the hæmatocele flowed out freely through the openings in the rectum, and when these openings were secured by forceps the whole sac held upwards of a quart; during life, however, its capacity must have been much greater.

In the *general peritoneal cavity* the inflammatory adhesions did not extend anteriorly beyond the fundus uteri; the peritoneal coverings of the anterior surface of the uterus, of the bladder, and of all the abdominal viscera, were smooth and healthy. With one exception, the viscera were

in a healthy condition. The spleen was about four times its usual size; this enlargement was due entirely to redundancy of blood; there did not appear to be any disease or deposit of any kind in its substance. Although so much has been written about the functions of this organ, our notions about them are still, I fear, rather confused; to speculate largely, therefore, on the cause of this great distension of the spleen under such peculiar circumstances, would seem fruitless. It would appear that, under certain conditions, blood rushes to it, even when the rest of the body has been thoroughly drained.

Head and chest not examined.

The fluid blood taken from the hæmatocele examined under the microscope showed numerous blood-corpuscles, some perfect, others undergoing various degrees of change, also pus-globules and little black and yellowish masses, some of them assuming a crystalline form; the chief part, however, was made up of undefinable débris of blood, fibrin, and pus.

Some of the Fellows of the Society noticed a cavity in the interior of the large clot of blood I have mentioned, and supposed that it might possibly have contained an ovum; I therefore examined it very carefully, but neither membrane, vessels, nor structure of any kind, were found in it. On cutting through it in all directions it presented the same black-currant jelly-like appearance, and was in all probability recent. My explanation of the cavity in its interior is this:—fresh blood having passed to the lower part of the hæmatocele, it there formed a clot, the centre of which sinking deeper and deeper in the cul de sac, caused it to double on itself, and form the smooth-surfaced cavity within. Cavities of a similar kind are not unfrequently met with in clots of blood obtained under other circumstances and from other parts of the body. I wish to lay stress on this point, because one French author has written a paper to prove that uterine hæmatocele is always caused by the escape of an early ovum into the peritoneal cavity. It must be further remembered that in our case the canals of the Fallopian tubes were obliterated; impregnation was, therefore, rendered impossible.

In connection with the phlegmasia dolens, which, no doubt, helped to destroy the patient's life, I exhibited at the last meeting, with the pelvic viscera, the left iliac artery and vein; the latter contained a firm cast of fibrin, which could not be separated from the vessel without tearing; its coats were greatly thickened, being much thicker than the coats of the artery, which was empty, and in a healthy condition. The surrounding tissues were infiltrated with inflammatory serum and lymph, some of them being matted together, and a large gland of a purplish colour was adhering to the external coat of the vein. A cast of fibrin was also shown taken from the right iliac vein, another from the inferior vena cava, and smaller ones from the lesser vessels. The coats of the vena cava were healthy, those of the right iliac vein thickened. The abdominal aorta and the arteries generally were empty and healthy. Nearly all the pelvic veins appeared to be blocked up with blood and fibrin, and after the preparation had been in a saline solution a few hours they presented the appearance of having been injected with red wax.

General remarks.—It has been justly observed by Dr. West that "most of the cases of uterine hæmatocele that have been recorded possess a general family likeness." It is also true that scarcely two cases can be found in all respects alike; and as the subject is comparatively "new ground," it may serve some useful purpose if I note down with my remarks some of the peculiarities of our case, as contrasted with others, that may occur to me, and I would mention—

1st. The double attack at the commencement of the illness; the slight peritoneal mischief, and partial recovery followed by the severer symptoms and protracted sufferings. Now, it seems quite possible that, if other conditions had been favorable and the patient had not attempted to get about too soon after the first attack, everything would have gone well. There can be little doubt that many attacks, attended with similar symptoms, met with in practice, have been caused by something having escaped from the uterus or its appendages into the peritoneal cavity, and setting up

more or less inflammation; and when there is no permanent organic mischief, by careful treatment and perfect rest the patient makes a speedy recovery.

2nd. The absence of "tenesmus" and of "a frequent desire to pass water." These two symptoms have so constantly, in medical writings, been associated with cases of this kind, that I was always on the watch for them, but from first to last they were entirely absent. The absence of "tenesmus" might, perhaps, receive an explanation in the probability that the pelvic tumour did not descend low enough on the rectum to call that symptom into existence; and with regard to the bladder, as the patient always kept the recumbent posture, it is not difficult to understand how the neck might have escaped the amount of pressure necessary to cause irritability; but whatever may be the true explanation, it will be useful to bear in mind that the two symptoms just mentioned do not, as has been supposed, invariably accompany cases of uterine hæmatocele.

3rd. The absence of "fluctuation" in the tumour. The pelvic or lower portion of the tumour was at first hard and unyielding, and after being emptied of some of its contents it became rather soft and flabby. Taking into consideration the infiltrated and thickened condition of the surrounding tissues, I do not think that "fluctuation" is a sign of uterine hæmatocele likely to be often met with.

4th. The absence of "arterial pulsations from enlarged arteries surrounding the tumour." The presence of these pulsations has often been observed, but not invariably.

5th. The presence of phlegmasia dolens. MM. Bernutz and Goupil only mention one case, and that appears to have been of a mild form. The same authors relate that in the progress of one of their cases of uterine hæmatocele the axillary glands became enlarged, accompanied with phlebitis and œdema of the upper extremities. M. Voisin mentions a few cases of simple œdema of the lower extremities. Phlegmasia dolens, therefore, particularly as it appeared in our case, must be considered a rare complication of uterine hæmatocele; when it does happen it may, perhaps, be regarded

as an evidence either that pus in considerable quantity has been formed within the tumour, or that the blood contained in it has undergone changes of an unhealthy character, leading to phlebitis, from its absorption by the veins.

In some cases the uterus is described as having been carried upwards and forwards, so as to be felt above the pubes, and it is said this happens as often as the retroverted position of the organ, the position observed in our case. It seems probable that when the fundus uteri is carried above the pubes the case is one in which the collection of blood is outside the peritoneum and between the two layers of the broad ligaments; the latter, distended with blood, would have a tendency to raise or push the womb upwards; whereas, in the intra-peritoneal form of the affection, the collection of blood in the peritoneal cul-de-sac would tend to draw the fundus uteri downwards and backwards, in fact, to cause retroversion. Unfortunately for this explanation, two of the leading French authorities (Nélaton and Voisin), as we have seen, deny altogether the possibility of an extra-peritoneal hæmatocele. With much less experience, I have arrived at a different conclusion, and I think it is very likely that this, the external form, has also existed in those cases in which the ovaries and Fallopian tubes have been so displaced and disorganized as to be with difficulty recognised, sometimes, indeed, not found at all. It is, however, confessed by some of the best observers that, from the great structural changes which have taken place, it is now and then difficult to decide whether the hæmatocele is intra- or extra-peritoneal. Under any circumstances, it requires some amount of pathological acumen to be able to recognise the peritoneum in the thickened, shreddy, darkened walls of a hæmatocele. My principal reasons for considering our case an intra-peritoneal hæmatocele are—1st. The acute symptoms which attended its formation. 2nd. The openings in the left broad ligament. 3rd. The inflammatory deposit within the sac, on the peritoneal covering of the right ovary. 4th. The comparatively little displacement or disorganization of

most of the uterine appendages. 5th. The easily recognised two layers of the broad ligaments, and their thickened condition.

Among the other more striking features of our case, as made out by the post-mortem examination, were—1st. The facility with which the source of hæmorrhage was discovered. 2nd. The dark, leaden colour of the interior of the sac and of the mucous coat of the intestines. 3rd. The enlargement of the spleen. 4th. The fibrinous casts in the pelvic veins. On further reviewing the pathological history of the case, several points of interest present themselves for consideration. It must be recollected that six years previous to the patient's death she had inflammation of the bowels, and from that period she became sterile. Now, as it is well known that peritonitis is one of the causes of those morbid changes which lead to sterility, it is fair to assume that such may have been the cause in this instance. It is probable that inflammatory action reached the interior of the Fallopian tubes in 1854, and gradually caused their obliteration, for although it must be admitted that there was plenty of time during the patient's last illness for the tubes to have been made impervious by the products of inflammation, the disorganization of the left ovary, and totally impervious condition of the left tube, rather pointed to the more ancient date. It is also probable that this obliteration of the left tube was the primary cause of the retention of blood within the corresponding ovarian capsule, leading to the destruction of the ovary. During the menstrual period the whole uterine system is in a state of congestion, and every part of it contributes towards the menstrual flow. It is now pretty well established that, the same as at the time of impregnation, the fimbriæ of the Fallopian tubes at each menstrual period grasp the ovaries, and retain their grasp for several days, until the ovules escaping from the Graafian vesicles, and blood and secretions accompanying them, have passed through the tubes into the uterine cavity. If the communication between the ovaries and the uterus becomes interrupted, if the tubes are closed or the ovaries displaced,

or so fixed by adhesions as to be unable to adapt themselves to the embrace of the fimbriæ, what becomes of the periodical ovulation and congestion still going on? Although it is not easy to agree with M. Laugier, that the comparatively slight hæmorrhage which would follow the escape of an ovule into the peritoneal cavity would be sufficient in itself to cause uterine hæmatocele, it appears to me very possible that many of the obscure pelvic pains and disorders in females presented to our notice may be the effects, often only transient, and often, perhaps, from a temporary want of adaptive power between the tubes and ovaries, of such an escape of ovules and blood having taken place. If, now, it be recollected that the coats of the ovary may become so thickened as to prevent anything, ovules or blood, from leaving the ovary, another set of phenomena present themselves. We read of "ovarian apoplexy," and the ovaries appear to be capable of bearing a great deal of congestion, without injury to their stroma. If, however, one small blood-vessel gives way, and, instead of simple congestion, we have effusion of blood, besides the retained unruptured vesicles, themselves a prolific source of ovarian disease of another kind, a morbid condition becomes at once established; the effused blood would distend the capsule of the ovary, and so press on the ovarian substance as to lead to its disintegration and ultimate absorption; at each menstrual period there would be hæmorrhage from the disintegrated surface (a lesion named "ulceration of the ovary") within the capsule, and probably some of the blood, under such circumstances, would become absorbed; the absorption, however, would not keep pace with the accumulation. Month after month, and year after year, quite unknown and unfelt by the patient, the accumulation goes on until the capsule, from a sudden accession of hæmorrhage, or from some of the exciting causes of uterine hæmatocele that I have enumerated, bursts into the peritoneal cavity. In such a case as this it would be impossible to say what particular vessel or vessels first gave way, whether those of the Graafian vesicles or of the ovarian stroma; but there can

be no doubt that, subsequently, the hæmorrhage is kept up from the disorganized surface of the ovarian stroma. Now, a good deal of this appears to have happened in Mrs. L—'s case. On the right side we have a good example of ovarian apoplexy, with its accompaniments or relics—the clots of blood; and on the left side a disintegrated ovary, from blood retained within the capsule. With regard to the division of the left ovarian capsule into two cells (I use the term "cells" instead of "cysts," because, in ovarian pathology, the latter generally conveys the idea of distended Graafian vesicles), it may have been that two effusions of blood within the capsule took place, independent of each other and on different occasions, forming their own boundary walls, and each emptying itself at different periods into the peritoneal cavity. This explanation, if accepted, would also help to explain the formation of the two large divisions in the hæmatocele itself. After the bursting of the ovarian capsule into the peritoneal cavity under such circumstances as I have related, the case is hopeless. The ovarian stroma bleeds month after month, until the patient dies. M. Bernutz has further shown the hopelessness of all cases in which the Fallopian tubes are permanently closed. Another observer, M. Puech, considers it to be possible to diagnose this condition of the tubes, thus leading to a means of forming a prognosis of the case; to this doctrine, however, he has not made many converts. Fortunately, the great majority of cases of uterine hæmatocele get well. The course taken by any particular case must depend upon the particular pathological lesions accompanying it; and it seems very probable that the difficulties of diagnosing those lesions during life will gradually disappear. To explain why some cases are fatal and others do well, would require an exposition of the whole pathology of the subject, which would be out of place here, but may readily be found in the treatises and lectures already alluded to.

The differential diagnosis of uterine hæmatocele is also too extensive a subject to be fully entered upon here; but even our own authors, Drs. West, Simpson, and Tilt, have

made it so clear that, except in rare cases, no one need make mistakes. It is said that pelvic abscess and extra-uterine fœtation are the two conditions most likely to mislead us. With regard to the former, there are so many points of difference between the symptoms attending the formation of a pelvic abscess and those of a hæmatocele, that I do not see the difficulty of distinguishing them from each other. The chief resemblance appears to lie in the physical signs, as seen in an advanced stage of the two affections. The history of the case would scarcely fail to place us on the right track. With regard to extra-uterine fœtation, it is admitted by some of the best observers that when an early ovum escapes into the peritoneal cavity, before the signs of pregnancy have become developed, and the blood which escapes with it becomes encysted, it is impossible to distinguish it from ordinary uterine hæmatocele; but when the ovum is of some months' growth, the usual signs of pregnancy will be present.

Treatment.—In the treatment of uterine hæmatocele I find it is a common practice on the continent to apply ice to the hypogastric region, with the view of arresting internal pelvic hæmorrhage. I did not employ it in Mrs. L—'s case, for besides the risk of causing a great deal of discomfort, I considered its efficacy would be as doubtful as that of applying ice to the chest in cases of hæmoptysis. The great point, however, in the treatment, is the question of puncturing the tumour or leaving it to nature—the operative or the expectant plan. When the expectant is adopted, the blood contained in the hæmatocele may either become absorbed—the tumour slowly but at length entirely disappearing (it is not unlikely that the disappearance of so-called fibrous tumours of the uterus have really been cases of this kind)—or it may effect a passage through an opening in the rectum or vagina. When such a passage is effected under favorable circumstances the recovery is rapid; and, therefore, coming to the operative plan of treatment, surgeons have endeavoured to anticipate nature in her efforts to effect a cure, by making an artificial opening through the walls of

the vagina. It has, however, been observed that the sequel of cases has been much more unfavorable after an artificial opening has been made than when the opening has been formed by nature. The opening effected by nature nearly always takes place through the rectum, but the artificial opening has always been made through the vagina. There appears to be no good reason why the indications of nature, when an operation is resolved upon, should not be followed a little closer, and the opening be made through the rectum. It might be objected that the fetid gases of the intestinal canal, getting into the tumour, would do harm, but there is probably not so much to fear from this source of mischief as from the free admission of air when the opening is made through the vagina.

The leading authorities—Bernutz, Nélaton, Voisin, and others—after considerable experience of both plans of treatment, the operative and expectant, now almost invariably adopt the expectant. M. Voisin states that, of 27 cases treated by the expectant plan, 24 recovered and 3 died (one of the deaths being caused by some other complaint), and of 20 cases treated by the operative plan—that is, by puncturing the tumour through the posterior wall of the vagina—15 recovered and 5 died, but of the 15 recoveries several had a narrow escape from the dangers of hæmorrhage, peritonitis, and putrid fever. This is one of the points (the important one of treatment) that the rival authorities just mentioned agree upon, and they also agree that there are two classes of cases in which operative measures might be useful—1st, when the tumour, having received an addition of blood to its contents, gives rise to much suffering, and threatens to burst into the peritoneal cavity; 2nd, when the tumour has become stationary, receiving no additions of blood at the menstrual periods, all pain and active symptoms having subsided, general health good, and the patient wishes to be relieved from a bulky and cumbersome swelling.

M. Nonat considers that puncturing the tumour should

only be had recourse to when the hæmatocele is *extra*-peritoneal.

The rest of the treatment is conducted on the general principles of supporting the patient, attending to the secretions, relieving pain, inducing sleep, and giving styptics to arrest hæmorrhage. Preventive measures would consist of "guarding, as far as possible, against the predisposing and exciting causes enumerated at the commencement of the paper."

From the little attention hitherto given to the subject, it is more than probable that many cases of uterine hæmatocele have run their course unrecognised, and been treated for some other complaint, this remark being particularly applicable to those cases cured by absorption.

Perhaps it would be premature, considering our limited statistics, to speak too positively about treatment, but looking at the whole of the details of this paper, I think enough will be found to show that the case which forms its basis was one of "intra-peritoneal retro-uterine hæmatocele;" that it was one of those forms of the affection in which operative measures would only have hastened the patient's death; and further, that the subject of uterine hæmatocele deserves the attentive consideration of the Fellows of this Society.

Dr. Tyler Smith observed that there was no subject within the range of uterine pathology of greater interest and novelty than this of hæmatocele. He considered it to be essentially a form of ovarian or Fallopian menstruation, vicarious in character. The ovaries or Fallopian tubes in these cases produced the menstrual secretion, just as the lungs or stomach did in the case of gastric or pulmonary vicarious menstruation. When the ovaries or Fallopian tubes poured out blood at the menstrual periods, there was no means of escape, as in other forms of vicarious menstruation, and the fluid became accumulated in the recto-vaginal cul-de-sac of the peritoneum. Under these circumstances, the peritoneum threw out lymph with great rapidity, and converted the pouch into a complete sac by covering it over with a membranous exudation. The tumour of the peri-uterine hæmatocele was apparently thus formed, and it frequently increased in size by further accumulations at successive menstrual periods. The common method of escape was by ulceration

through the rectum, and the discharge of the altered and retained blood by the bowels. He had seen three cases in which this had occurred, and which had resulted in cure. He should be strongly inclined to puncture the tumour in such cases through the rectum, and to give emmenagogues with a view to the production of healthy menstruation. The case of Dr. Madge was one of the most interesting which had been placed on record, and he could only suggest that a better result might possibly have been obtained if a free opening by the rectum had been established at an early period.

Dr. Madge, in reply, mentioned that M. Bernutz had shown the hopelessness of all kinds of treatment in cases of uterine hæmatocele where the Fallopian tubes have become obliterated.

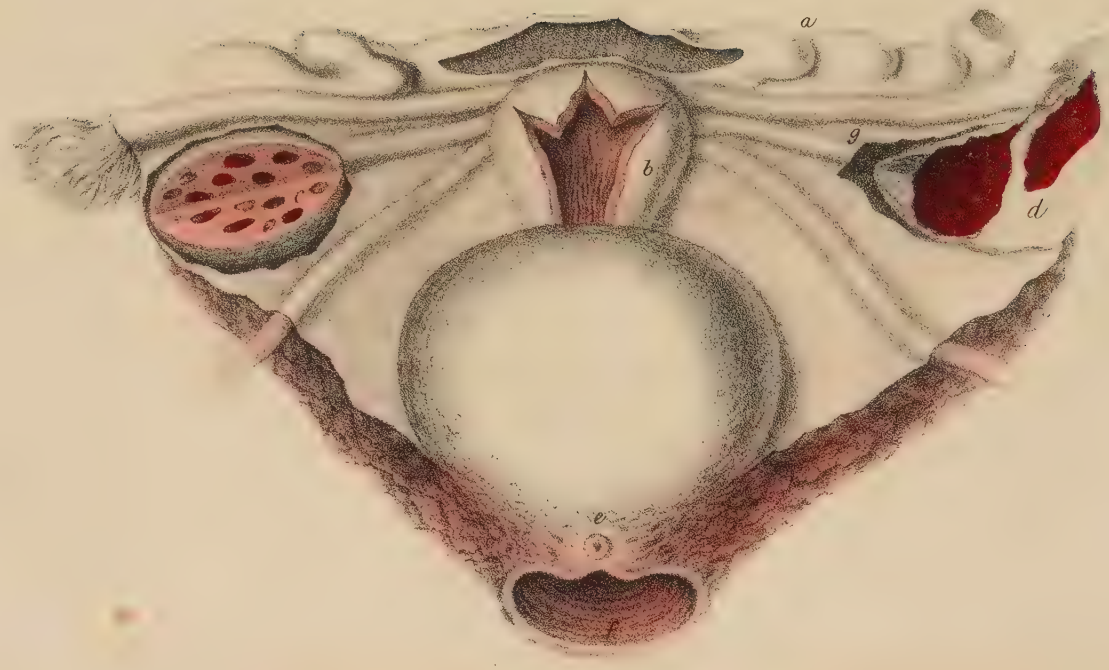
DESCRIPTION OF PLATES II AND III.

Plate II.—An anterior and superior view of the parts involved in the hæmatocele.

a. Folds of intestines surmounting and adherent to the uterus and Fallopian tubes, a portion of one fold being laid open to show its darkened mucous coat.
b. The uterus laid open.
c. The right ovary, enlarged from congestion, and containing numerous Graafian vesicles, some of the vesicles being distended with small clots of blood.
d. The left ovarian capsule—the source of the hæmatocele—distended with blood and clots. A portion of the stroma of ovary still remains, and, surmounting the capsule, is seen the Fallopian tube, cut through near its extremity, to show its impervious condition.
e. The bladder and urethral opening.
f. The vagina.
g. The thickened broad ligaments, containing the round and ovarian ligaments.

Plate III.—A posterior view of the parts involved in the hæmatocele. The cavity is opened from above, and a portion of the roof of the same—formed by intestines matted together—removed, to show its dark interior.

a. The agglutinated intestines forming the roof of the hæmatocele.
b. The opening in the left broad ligament, through which the blood escaped in a posterior direction from the ovarian capsule into the peritoneal cul-de-sac.
c. The liver-coloured mass, or deposit, on the posterior surface of the right ovary, which here forms a portion of the anterior wall of the blood-cyst.
d. The rectum laid open, and showing at *a* the transverse openings in its coats, through which blood passed from the hæmatocele during life.
e. The loose tissues of the pelvis surrounding the hæmatocele.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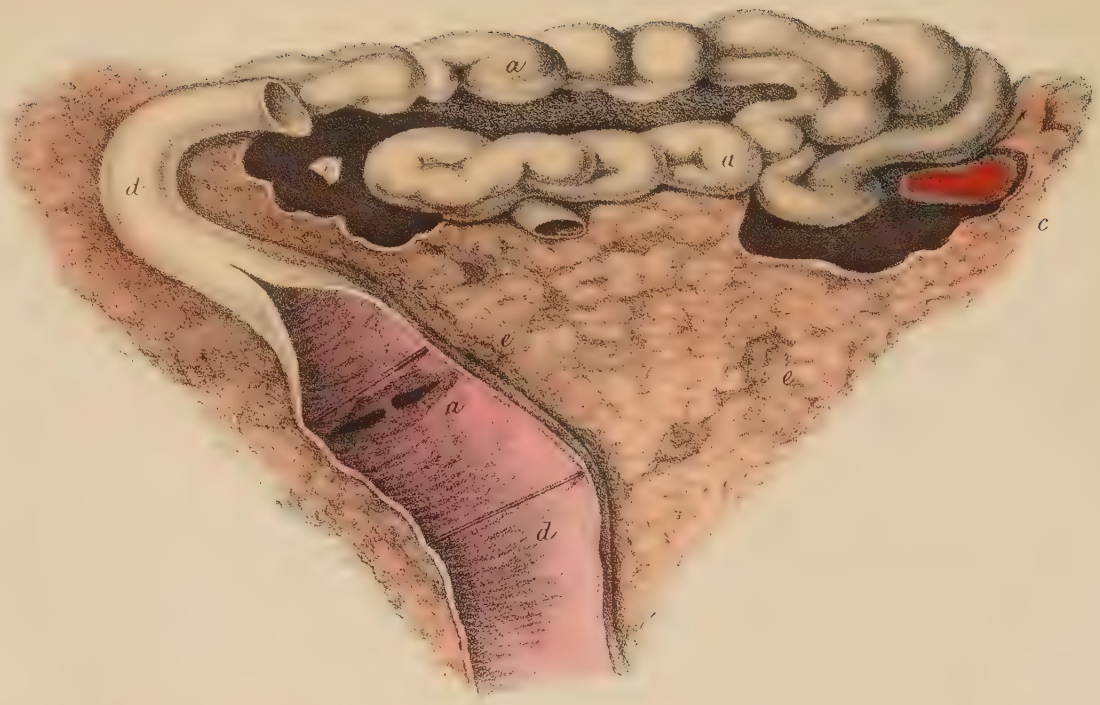
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April 3rd, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—46 Fellows and 7 visitors.

The following gentlemen were duly elected Fellows of the Society:—James Clark, M.D., Pentonville; Alfred Collinson, M.D. Aberd., Oxford Terrace, Hyde Park; W. Cumpstone, Esq., Market Rasen, Lincolnshire; Thomas Hayes Jackson, M.D. Erlangen, F.R.C.S. Ed., Darlington, Durham; Edward Jones, M.D., Sydenham; Gilbert Love, Esq., Wimbledon, Surrey; Arthur Noverre, Esq., South Street, May Fair; William B. Owen, Esq., Cleveland Square; John Brumby Smith, Esq., Liverpool; Robert Synnot, M.D. Edinb., Eaton Terrace, Eaton Square; R. S. Tomlinson, Esq., L.S.A., Burton-on-Trent; Henry George Watts, Thatcham, near Dewbury, Berks.

A CASE OF DIFFICULT POSITION OF THE HEADS DURING TWIN-LABOUR.

By Timothy Pollock, M.D., F.R.C.S.E., &c.

Mrs. M—, æt. 25, rather above the middle height, and apparently well-formed, pregnant with her first child, and at her full time, was seized with labour-pains about 2 o'clock this morning (February 21st, 1861). I saw her at 9 a.m., and made an examination. The edge of the os uteri was very thin; the os itself not at all dilated, and I could distinctly feel a tumour of flat bones presenting.

As the pains were powerless, I did not wait, but saw her again in three hours. The pains at that time were still slow and weak, and the os uteri not yet sensibly dilated. I did not see her again until about 7 o'clock in the evening, when the os uteri was dilated to about the size of a half-crown-piece, and the presenting part descending into the hollow of the sacrum. As it was her first child, and the entrance to the vagina very small, I could only explore with the index-finger; nevertheless I could distinguish, in addition to the loose, flat bones, some sharp points between them and a part which resembled the coccyx. After waiting about three hours, the presenting part gradually further descending and the os dilating, I pushed my finger through the membranes, and in a short time discovered the anus, but nothing like nates. Allowing the pains to go on a little longer, I passed my finger over the right groin and brought down the thigh and leg of that side, and in a short time afterwards the left leg. Having now both the lower extremities in my possession, I anticipated no further difficulty, but in this I was disappointed; for, on making what I considered the necessary traction during the pains, I felt what I had not experienced on previous occasions, viz., my efforts resisted by some elastic, counteracting force, so that, instead of the dead rest in the parts expelled usually noticed, there was a constant tendency to recede. The time occupied in this part of the delivery was longer and the force required for extraction greater than usual.

Up to this point I expected that I was contending with a case of abnormally enlarged head. At length a head began gradually to press upon and then to pass through the external parts, but, to my surprise, this was the head of another child. In a few minutes more the head of the first child was extracted without much difficulty. I found the lower jaw of the extracted child lying across the lower jaw of the unborn one, so that the side of the face and head of the one pressed on the throat and upper part of the chest of the other; and thus the first child dragged the

second down, and the second held the first back, thereby producing that elastic resistance previously mentioned.

The second child was soon afterwards entirely expelled, and the placenta shortly followed. Both children (boys) were born dead. They were, however, alive an hour previously to the completion of the labour.

The mother is doing well, not having experienced a single unfavorable symptom.

PRESENTATION OF RIGHT SHOULDER AND ARM; SPONTANEOUS EVOLUTION.

By Charles Mayo, F.R.C.S., Winchester.

(Communicated by Dr. Druitt.)

On the morning of February 26th, 1861, Mr. Wild, district-surgeon at Twyford, was sent for to Mrs. Budden, æt. 33, the mother of several children, who had been in labour since Sunday, the 24th, and was attended by a midwife. The right arm presented, and the shoulder was forced down; but as Mr. Wild found the womb much contracted, from the membranes having been long ruptured, he sent for me to assist him. I arrived at the house in Owselbury Bottom soon after 4 p.m., and after attempting for two hours to pass my hand into the fundus of the uterus so as to lay hold of the feet, I was obliged to relinquish the attempt, on account of the powerful contraction of the uterus, which, about one third of the way up, felt like an iron band, firmly and painfully compressing the fingers, notwithstanding her taking large doses of tincture of opium and inhaling chloroform to stupefaction. Mr. Wild again attempted with his left hand, but with no better success. As it was getting dark, and I was obliged to return home, I counselled Mr. Wild to leave her for two or three hours, and then to take the chance of the spasm subsiding under the influence of the narcotics, and examine her again before bedtime; this he did about

11 o'clock, but with no better success, so that he returned home again. About 2 in the morning he got a message that a great change had taken place, and on his arrival at the house he found that about 1 o'clock the pains increased in violence, and the breech of the child was expelled and the feet soon after, but an hour elapsed before the head and left arm came away, and the placenta directly after. The child was, of course, dead and exsanguine as it were, from compression, excepting the right arm and shoulder, which were deeply discoloured and swollen. I called on her in the afternoon and examined the child, which was a full-grown boy; the head appeared to have been compressed into the right side of the chest, and could not be felt in any of our examinations. There had been severe after-pains and considerable clots passed, and she had made water freely. With good nursing and care she recovered slowly, and had little or no trouble with her breasts.

This appears to have been a case of spontaneous evolution as described by Denman, vol. ii, 250-58, and the treatment entirely concurred with that inculcated by him, without premeditation and with the addition of chloroform, which he would, no doubt, have turned to account had its applicability been known in his day. Mr. Wild lived two miles, and I myself four, from the scene of action, so that neither was present at the birth, but it was authentically described to me by the midwife. With her last child the face presented. I have several cases of arm presentation on record, but none terminating as above, neither do I find that my neighbours in the profession have had such.

ON THE INDICATIONS AND OPERATIONS FOR THE INDUCTION OF PREMATURE LABOUR AND FOR THE ACCELERATION OF LABOUR.

By Robert Barnes, M.D., F.R.C.P.,
ASSISTANT OBSTETRIC-PHYSICIAN TO THE LONDON HOSPITAL,
PHYSICIAN TO THE ROYAL MATERNITY CHARITY.

"Der Meister kann die Form zerbrechen mit weiser Hand zur rechten Zeit."—Schiller.

It is somewhat more than a century ago, and in this town, that the artificial induction of labour was proposed and sanctioned as one of the legitimate operations in midwifery. English midwifery, pre-eminently conservative, claims the high honour of introducing and establishing an operation which has probably been the means of saving more lives of mothers and children than any other operation we know of. The forceps and turning only may compete with it; and, on the part of the artificial induction of labour, it may certainly be said that it is available in the greatest variety of dangers and the most serious complications.

It especially deserves to be mentioned in this place that the origin of the operation for the induction of premature labour signally illustrates the advantages that may spring from an association of obstetrical practitioners. It may be confidently said that this operation could not have made its way against the prejudices which opposed it, strongly even in this country, and with all the fierceness of religious rancour abroad, had it been abandoned to the occasional advocacy of isolated practitioners. It is worthy of remark, that to discuss the propriety of admitting this operation, the most eminent obstetrists in London met in consultation. The proposition was felt to be one of such magnitude as to demand all the professional knowledge of the day for the examination of its scientific merits, and all the moral weight

which a body of honorable men, meeting under a sense of individual and representative responsibility, could confer upon their deliberations. Denman informs us that the first account of any artificial method of bringing on premature labour was given to him by Dr. C. Kelly. "About the year 1756 there was a consultation of the most eminent men at that time in London to consider the moral rectitude of, and advantages which might be expected from, this practice." It met with their general approbation. Under this sanction the operation was resorted to in many instances. But Denman expressly tells us that "it afterwards became almost obsolete or forgotten." Had the eminent men who met in 1756 to discuss this great obstetric question then founded a permanent obstetrical society, can it be supposed that, with the constant opportunities for examining the merits and demerits of the practice, and for eliciting and diffusing information, which only a society can afford, it would ever have become almost obsolete or forgotten?

The English school has added this operation for the artificial induction of labour, and the forceps to the resources of conservative midwifery—services which no other school can parallel. Obstetric practice in England is far more successful than in any other country in the world. Yet tardy and feeble has been the influence of the English school upon obstetric science and practice. Can we doubt that it would have been far otherwise had the Obstetrical Society of London existed throughout the last century?

In submitting what I have to say upon the artificial induction of labour I do not propose to stop for one moment to discuss the moral aspect of the question, before which men so long shrank with repugnance. Upon the next point, the indications for the operation, space will only allow me to touch incidentally. I wish to devote undivided attention to the modes of performing the operation, to the means of improving it, and to the extension of its application.

Without binding myself to follow a rigidly historical course, it will be convenient to trace the progressive improvements in, or multiplications of, the modes of inducing

labour, with some regard to chronological order. Individual rights of priority in scientific discovery render this a matter of justice. The steps by which scientific perfection is evolved must always constitute a most instructive and suggestive subject of study.

I have said that the operation is of English birth. This is true notwithstanding that Guillemeau, Mauriceau, Levret, and other French obstetrists, had adopted the practice of delivering by force in cases of dangerous hæmorrhage occurring during pregnancy. There is an essential distinction between this violent and precipitate operation, justly called the *accouchement forcé*, and the deliberate, gradual, and gentle operation for the induction of premature labour. The different nature of this latter proceeding may be antithetically described by calling it the *accouchement provoqué*. Nothing can more clearly mark the distinction between the two than the fact that the English operation was, for a long time, rejected in France as an immoral innovation. It is one of the objects of this memoir to show that, by perfecting the operation for the artificial induction of labour, and by applying new resources for the acceleration of labour, we may obviate the necessity for resorting to the *accouchement forcé*, expelling violence and danger, and substituting gentleness and safety in our endeavour to assist nature to accomplish her intentions.

I have spoken of the operation for the induction of labour as one. But it is well known that the object proposed may be effected in various ways. Many as these methods are, nearly all are useful under certain conditions. There is, perhaps, no one method that is absolutely to be relied upon in every case. The first method, and probably the only one practised for some years after the operation became admitted, was that of *puncturing the amniotic sac*, with a view to lessen the capacity of the uterus by the discharge of the liquor amnii. This was done by puncturing the membranes directly through the os uteri with a quill or with some instrument constructed for the purpose. There is reason to believe that this method is in most general use. It must be admitted that it possesses the

great merit of frequently solving the problem how to bring on labour when other methods have failed. It is the ultimate refuge. It is, however, open to the objection that the loss of the liquor amnii exposes the fœtus to undue pressure, imperilling its life when the womb contracts, and forces it against the undilated cervix.

The *ergot of rye* has been extensively used; and, notwithstanding the objection urged that it is more fitted to strengthen pains already incited than to provoke pains *ab initio,* the evidence in favour of this agent is strong.

Dr. Ramsbotham, however, abandoned the use of ergot, because he observed that the proportion of children born still was greater than when the membranes were punctured. This he attributed to the baneful influence of the drug upon the fœtus. He also says that in four instances he witnessed the death of the fœtus a few hours after birth by convulsions. The question between puncturing the membranes and ergot seems to be one of those which might be set at rest by statistical comparison. Are fewer children born alive after puncturing the membranes than after other operations in which the integrity of the ovum is respected to the last? I will recur to this question presently.

To obviate the danger from premature and protracted compression of the fœtus, the late Professor Hamilton, of Edinburgh, practised *the separation of the membranes* from the lower segment of the womb for a space of two or three inches. He found that this was generally sufficient. I find, however, that it cannot be depended upon to induce labour within any definite time.

Another mode of saving the fœtus from pressure was described by Hopkins.[1] This consisted in passing a sound some distance between the membranes and the uterine walls, and then tapping the amniotic sac at a point remote from the os. By this mode it was sought to provide for *the gradual escape of the liquor amnii.* This operation may be regarded at a compromise between the direct evacuation of

[1] 'Accoucheur's Vade Mecum,' 4th edit., Lond., 1826.

the liquor amnii and Hamilton's method of detaching the membranes. It is still successfully adopted in this country and in Germany.

Krause,[1] not relying upon Hamilton's plan or the preceding, *passed a flexible catheter into the uterine cavity, leaving it in situ,* or removing it after some hours and replacing it, until uterine contraction was excited. This plan is still practised in Germany.

Merrem adopted a similar plan. He placed a bougie in the uterus, but also partially detached the membranes.

This plan has been adopted and much praised by Professor Braun, of Vienna.[2] He recommends it as safe, painless, and efficacious. He admits that it is open to the objection that the catheter or bougie is likely to wound the membranes if not carefully introduced. He advises the use of catgut bougies, about a foot long and two or three lines thick; the end is soaked in hot water to soften it, and then, well oiled, is pressed into the uterus, leaving a short piece outside in the vagina. Pains are usually excited in from six to twenty hours. The bougie is only removed shortly before the birth of the child. In the years 1857 and 1858 Braun employed the intra-uterine catheterization twelve times. Eleven children were born alive, five dead; eight mothers recovered, four dying—one of pneumonia, one of phthisis, and two of Bright's disease.

For the last forty years various contrivances *for mechanically dilating the cervix* have been tried. The idea of dilating the cervix by sponge-tents was announced by Brünninghausen in 1820. The introduction of a plug into the cervix uteri being sometimes difficult, especially in primiparæ, Osiander, Von Busch, Krause, and others, invented other forms of dilatatorium. The sponge-tent was again advocated in 1841 by Scholler. Ed. von Siebold also adopted the uterine plug. This method has since been in constant employment at home and abroad. It has,

[1] A. Krause, 'Die kunstliche Frühgeburt,' Breslau, 1855.
[2] 'Wiener mediz. Wochenschrift,' No. 46, 1858.

however, been shown by repeated experience that the ordinary forms of utero-cervical plug cannot be relied upon to excite labour within any reasonable time. The practitioner may frequently have to wait ten or fourteen days; and if he count solely upon it, he may be beaten by time. Of late years I have chiefly used it on the principle advocated by Krause, namely, as a preparatory proceeding, trusting to other methods to excite active labour.

In the year 1842 Dr. Hüter communicated[1] a method for exciting labour by *placing a calf's bladder,* smeared with oil of hyoscyamus, *in the vagina,* and distending it with warm water. This proceeding he repeated every day until labour set in, which usually happened in from three to seven days. It was soon found that this method was exposed to the same uncertainty as the cervical plug. Professor Braun,[2] believing that animal bladders were objectionable, from their liability to decomposition, proposed, in 1851, the substitution of a caoutchouc bladder, to which, from the purpose to which it was devoted, he gave the name of *colpeurynter.* V. Siebold, V. Ritgen, Germann, Birnbaum, and others, adopted this modification.

Another form of vaginal dilator is the air-pessary of Gariel. The earlier trials with this instrument seem to have been especially unfortunate, since six mothers died out of fourteen, and Breit saw inflammation of the genitals and death caused by it.[3]

In 1803 Herder suggested the employment of *galvanism,* as a direct stimulant to the uterus, to expel its contents. In 1844 Drs. Horninger and Jacoby brought on labour by means of this agent. Dr. Radford, in this country, having used it in cases of placenta prævia, and to induce labour, spoke favorably of it. In 1853 I published a memoir upon this subject, and related three cases, two of my own, and one in which my friend Mr. Mansford had, at my suggestion, resorted to galvanism. In all these cases the agent was

[1] 'Neue Zeitschr. für Geburtskunde,' Bd. xiv, 1843.

[2] 'Zeitschrift f. Wiener Aerzte,' 1851.

[3] Göschen's 'Deutsche Klinik,' Berlin, 1853.

perfectly successful, although more or less tedious. Dr. Mackenzie has subsequently published an instructive memoir, illustrating the power of galvanism over the uterus. I have now employed it in several instances. I am not, however, now disposed to trust to galvanism for the origination of labour, but would restrict its use to the acceleration of labour already set in spontaneously or provoked by other means.

The following case, not hitherto published, will illustrate the action of, and some of the objections to, galvanism in obstetric practice.

Case 1.—*Labour induced by galvanism.*

October, 1858.—J—, a healthy woman, was delivered in her first labour by craniotomy, by Dr. Ramsbotham; in five subsequent pregnancies labour was induced at about seven months. On the 19th October she was estimated to be a little more than seven months gone. The pelvis was generally contracted, without excessive projection of the promontory. Warm water was thrown into the vagina once a day for three days, without effect. On the 22nd, warm and cold water was injected alternately, for thirty minutes at a time, four times; still no effect. In the evening I applied galvanism; the uterus was felt to contract under its influence, but the chief effect was on the abdominal muscles; it caused pain in the back. She then had several doses of Colchester's Liquor Secalis; still no effect. On the 23rd, patient complained that she felt "prickings and burnings" on abdomen, where the poles had been applied. The galvanism was repeated at 11 a.m., 24th; it brought on pain in the back, contractions of abdominal muscles and uterus. I then ruptured the membranes; this was not followed by any escape of liquor amnii until galvanism was used; then the uterus, contracting, expelled the waters in gushes, but active labour-pains did not ensue. More ergot was given, and the patient was left. Slight pains occurred during the day, and the child was expelled almost suddenly at night; it was stillborn. The child was alive after the last galvanic application. It was

probably destroyed by long retention after loss of liquor amnii.

It is worth while to mention that the patient was excessively irritated, and a little alarmed by the galvanism. The noise of the breaking of the current distressed her exceedingly.

In 1853 Scanzoni[1] took up an idea suggested by Friedrich, that labour might be excited by applying flying sinapisms or blisters to the breasts. The plan may, indeed, be traced back to Hippocrates, who was well acquainted with the fact that irritation of the breasts will provoke contractions of the uterus. The law of responsive action between breast and womb has been turned to account in various ways in obstetric practice. In Germany a child is applied to the breast to rouse the energy of the uterus in lingering forceps cases. Our late lamented President, Dr. Rigby, popularised in this country this plan of stimulating the uterus to contract after labour, in order to arrest hæmorrhage; and I have long regarded suckling as the surest means of promoting the due involution of the womb, and thus of averting congestion, inflammation, prolapsus, and other morbid conditions of that organ, which so frequently follow parturition.

Scanzoni excited the mammary glands by means of cupping-glasses or other exhausting apparatus. The application was repeated several times daily. Experience, however, showed that, whilst the method was extremely uncertain in inducing labour, it was often followed by serious inflammation of the nipples and breasts. In many instances it was necessary to resort to other methods in order to effect the object in view.

Another method put forward by Scanzoni[2] was the injection of carbonic acid gas into the vagina. To this he was led by the observation of Brown-Séquard, that carbonic acid quickly excited smooth muscular fibres to contract. It is true that premature labour has, in several cases, followed

[1] 'Monatsschr. f. Geburtsk.,' Band i, 1853.

[2] 'Wiener medic. Wochenschrift,' No. 11, 1856.

the repeated injection of carbonic acid into the vagina. It has, however, been found necessary to resort to other means in aid. And it may be conjectured that, where labour has followed, it has been the result as much of repeated mechanical irritation of the vagina and cervix uteri as of any specific action of the carbonic acid. If uncertain as a provocative of labour, it is not free from danger. Scanzoni himself has related a case in which death was caused by the injection of carbonic acid into the vagina. The patient was not pregnant. The gas douche was used with a view to avert hæmorrhage, by constricting the calibre of the vessels, before amputating an hypertrophied cervix uteri.

C. Bernard,[1] of Lyons, has made known cases of narcosis and collapse following carbonic acid injections in non-pregnant women. On the other hand, Drs. Breslau and Vogel,[2] having experimented on pregnant bitches, arrived at negative results as to the influence of carbonic-acid douches on health or the progress of gestation. It must not be forgotten that, if common air may be projected through the Fallopian tubes, or in other ways cause death, carbonic acid gas may be attended by similar accidents.

In 1846 Kiwisch,[3] recommended the warm douche to be played against the vaginal portion of the uterus. He first used the syphon-douche. A stream or fountain of warm water was directed for ten or fifteen minutes at a time, two or three times daily. Labour ensued in from twenty hours to seven days. This method is considered specially convenient in the cases of primiparæ, and others in which the os uteri is difficult to reach and to open. The pump is now substituted for the cumbersome syphon-fountain. The method, however, is by no means certain; it is generally tedious, and Julius Diesterweg[4] was soon able to collect a

[1] 'Archives Gén. de Méd.,' 1857.

[2] 'Versuche mit kohlensaüre an trächtigen kaninchen, Wiener Med. Wochenschrift,' No. 37, 1858.

[3] 'Beiträge zur Geburtskunde,' Würzburg, 1846.

[4] 'Verhandl. d. Gesellsch. f. Geburtsk. in Berlin,' 1851.

large number of cases, which showed that half the children were stillborn.

The idea of exciting labour by *intra-uterine injections* seems to have been first suggested by Schweighaüser in 1825. He recommended, as the principal means of dilating and exciting the os uteri, the use of a blunt, thick sound; and then, instead of proceeding as Davis and Hamilton did, to separate the decidua from the uterus by a similar instrument, to effect this by the injection of warm water. He was careful to warn that these injections should not be pushed so far as the placenta, lest this should be prematurely detached. It does not appear that Schweighaüser ever practised his precept. For twenty-one years this proposal remained in abeyance. In 1846 Cohen, of Hamburg, described "a new method to effect premature labour."[1] This was a revival of the application of intra-uterine injections. By common consent in Germany, this is now known as "Cohen's method." In the first instance Cohen employed *aqua picea*, or creasote-water, the idea being entertained that some special oxytocic virtue might reside in medicated fluids. The first contrivance Cohen used was a slightly bent metal tube, eight or nine inches long, and screwed on to a small syringe. Guided by two fingers, this tube was passed through the os uteri and carried on two inches between the anterior uterine wall and the fœtal membranes. The fluid was then injected for ten minutes. The anterior aspect of the uterus was selected because it is often difficult, in cases of distorted pelvis, to direct the tube backwards, on account of the projection of the promontory.

Three years later, Ortwin Naegele[2] described a case in which he successfully carried out Schweighaüser's proposal of injecting plain water, bringing on labour in a woman with rhachitic deformity.

Naegele was followed by Harting,[3] who used a curved, metal tube, the end of which was passed two inches through

[1] 'Neue Zeitschrift für Geburtskunde,' Band xxi.

[2] 'Med. Vereins. Zeitung,' No. 36, 1849.

[3] 'Monatsschrift für Geburtskunde,' Band i, 1853.

the os uteri, injecting warm water into the uterus. Sack[1] had equal success, effecting labour readily in cases in which Scanzoni's plan of stimulating the uterus through irritation of the breasts, the tampon, and other means, failed. In November, 1853, Cohen[2] published "some improvements in his method of exciting premature labour." He pointed out as defects of his original plan—1. The uncertainty that the injected fluid was retained in the uterus. 2. The difficulty of screwing on the tube after introduction. 3. The too small quantity of the aqua picea—the fluid which he still declared to have a specific power—he had injected. 4. The insufficient curve of the tube for many cases of advanced pregnancy. To obviate these objections, he now employed the ordinary flexible tube, having attached to it a tin or elastic tube four inches long, and being for a space of two and a half inches from the point only one and a half inch and two lines in diameter. This supplemental tube then increased in calibre until it joined the other portion, forming a dilated ring at the junction, the object of which was to close the os uteri and retain the injected water in the uterus. The quantity he injected was sometimes twenty-four ounces; he persisted until either the abdomen was sensibly distended or fluid escaped by the side of the tube. He urged the caution that, if ever so little blood followed the insertion of the tube, it indicated that the placenta was reached, and that, therefore, the tube should be repassed in another direction.

There was no case of failure in effecting the object in view. The average lapse of time between the first injection and the end of labour was seventy-eight hours.

It was Cohen's opinion that the injection did not act by separating the decidua from the chorion, but through being absorbed by the surface of the body and fundus uteri. He argued that the mere detachment of the membranes was often carried to a much greater extent by Hamilton's method,

[1] 'Deutsche Klinik,' No. 40, 1853.

[2] 'Monatsschr. für Geburtsk.,' Band ii, 1853.

which yet could not be relied upon to ensure contraction, and that no injection has any effect unless it is retained in the cavity of the uterus. This latter proposition is certainly not in accordance with my own experience.

Mr. James, the surgeon to the City of London Lying-in Hospital has lately[1] published several cases in which labour was induced by the intra-uterine injection. His first case occurred in 1848. His practice is to pass an elastic male catheter through the os, between the uterine wall and the membranes, to the extent of four or five inches; then to inject about eight ounces of cold water by means of an elastic bottle. Of eight children, only two were still-born.

I think it necessary to advert to the essential distinction that exists in Kiwisch's plan and that of Schweighaüser and Cohen. Much confusion has arisen from calling Kiwisch's plan the uterine douche. It is simply a vaginal douche. The true uterine douche is Cohen's. The two operations are essentially different in their mode of action.

Easy, convenient, and advantageous as is the intra-uterine injection in many respects, there are not wanting circumstances suggestive of caution in its employment. Several cases in which death has speedily followed the injection of fluids into the cavity of the non-pregnant uterus are known. That air may be introduced into the vascular system through the uterus soon after labour is also proved by several fatal histories. Unless great care be taken, some air is very apt to be thrown up with the water by any of the ordinary syphons or pumping syringes. Dr. Guillier[2] relates a case in which injections of water being ordered to cleanse the vagina of a woman wearing a pessary, death almost suddenly followed the injections. It was concluded that, the os being kept in a gaping condition by the pessary, water mingled with air-bubbles was thrown into the uterus, and forced through the Fallopian tubes into the peritoneal

[1] 'Lancet,' March 2nd, 1861.
[2] 'Gazette Médicale,' 1857.

cavity. It may also be conjectured that air found its way into the blood-vessels. That it is possible for air or fluids to pass from the uterus into the peritoneum through the Fallopian tubes, even in pregnant women, cannot, I think, be reasonably doubted. I have seen, what others have seen, namely, the open mouths of the Fallopian tubes in the bodies of pregnant women. Germann refers to fatal cases related by Chiari and others. He conjectures that the fluid might have passed into the abdominal cavity. Out of nine cases in which Germann employed intra-uterine injections, shivering occurred in six.

In reviewing the relative merits of the various methods of provoking labour, it may be supposed that the question of superiority may be settled by an appeal to the numerical method. After some experience in statistical investigations, I have arrived at the conclusion that the time of the practitioner is better devoted to clinical observation and reflection upon individual cases. For the consideration, however, of those who take an interest in these calculations, I give the result of an examination of some elaborate tables compiled by Dr. Germann.[1] I find that of 107 children born after puncture of the membranes, 22, or 20 per cent., were dead; of 102 children born after various processes of dilatation of the vagina or cervix uteri, 22 died, or 21 per cent.; of 51 children born after vaginal or uterine douches, 33, or 60 per cent., were dead; and that of 23 cases in which secale was given, 5 were dead, or 22 per cent. If we may trust these, or other figures elaborated in a similar manner—and there are so many complications and disturbing facts to be eliminated before we can arrive at a residuum of strictly comparable cases, that I do not think they can be trusted—we should not see much to choose, on the score of safety to the child, between puncture of the membranes, dilatation of the vagina or cervix uteri, and secale, whilst the vaginal and uterine douche must be discarded as unusually fatal. It deserves, however, to arrest attention

[1] 'Monatsschr. f. Geburtsk.,' 1858.

that the mortality under the douche appears to be nearly treble what it is under the other methods.

The extension of the principle of dilatation by fluid pressure to the cervix uteri would seem to be an easy step, but it has been only very recently made. It is now several years since Dr. James Arnott recommended this method of dilating strictures of the urethra. Notwithstanding this, obstetric practitioners continued to employ various instruments, constructed upon a different principle, for the dilatation of the cervix uteri. Some thought to effect their purpose by cutting-instruments; others, by metallic or wooden bougies, or by sponge-tents; and others, as Osiander, Busch, Krause, Jobert, Dr. Graham Weir, and the late Dr. Rigby, contrived dilatatoria with expanding, metallic blades. These numerous contrivances sufficiently attest the strength and prevalence of the opinion that it was desirable to possess a power of dilating the os and cervix uteri at will. As far as I am aware, Mr. Jardine Murray was the first to publish,[1] a case in which fluid pressure was applied directly to the cervix uteri, with the object of expanding it and accelerating labour. This case, by priority of publication and intrinsic obstetric interest, deserves to be quoted here.

Mr. Jardine Murray's case.—In April, 1859, Mr. Murray attended a case of placenta prævia, in which the flooding had been very profuse; the os was little more than the size of a shilling, thick and firm. "Sweeping the finger round the external surface of the placenta, he broke down its uterine adhesions within an inch and a half of the margin of the os uteri, and ruptured the membranes." During an hour there was very little bleeding, but at the expiration of this period another gush accompanied a pain. The os was still insufficiently dilated to admit two fingers. Syncope occurred. Mr. Murray introduced a flattened air-pessary between the wall of the uterus and the presenting surface of the placenta, and inflated it by means of a syringe.

[1] 'Medical Times and Gaz.,' June, 1859.

Pains became more powerful. A little hæmorrhage occurring from time to time was effectually checked by further dilatation of the pessary. After two hours the os was the size of the rim of a wineglass. Pessary withdrawn, the feet, which came down, were seized, and the child was extracted. Mr. Murray makes an observation which I have often insisted upon in illustration of the impossibility of detaching the placenta wholly without passing the entire hand into the uterus. He says the placenta, from its unusually large size, must have extended over the greater portion of the internal surface of the uterus. The patient recovered well.

Mr. Murray believes that "to Dr. Keiller, of Edinburgh, we are indebted for extending the application of caoutchouc air pessaries to the dilatation of the passages in primiparæ, and in the induction of premature labour."

Dr. Keiller immediately claimed the merit assigned to him by Mr. Murray, and announced his intention "to publish several other cases illustrative of the use of an instrument which he believed he might fairly claim as his own."[1]

In the July of the same year, 1859, Dr. Storer published, a case[2] in which he had induced premature labour by the application of bags distended by water after introduction into the uterus. About this time, induced by the perusal of Mr. Murray's case, I was employed in devising and getting made suitable instruments on the same principle. I carried out the practice most successfully in a case of placenta prævia, in April, 1860. This, and other cases in which I have resorted to the same means, I will now relate.

Case 2.—*Placenta prævia centralis.*

23rd April, 1860.—This patient had borne eleven children; the first four had been born alive, after normal labours; the last seven had been destroyed, including two which had been born prematurely, labour having been

[1] 'Medical Times and Gaz.,' June 18th, 1859.

[2] 'American Journal of Medicine,' July, 1859.

artificially induced. Is now at commencement of eighth month. Has had hæmorrhage three times within the last few days. I saw her at 4.30 a.m.; she had then lost considerably, but still had a good pulse. The os was dilated to the size of a dollar; the placenta was quite over the os internum. The cervix from os externum to os internum was 1·5″ long. I passed the hand into vagina, and detached the placenta all round, on a radius of from 2″ to 3″, from the orificial zone. This was accomplished with some difficulty in the posterior region, on account of the strong projection of the promontory of the sacrum, the lower segment of the uterus lying on this as on an inclined plane. No bleeding attended this operation. An edge of the placenta was just felt anteriorly. The head was felt floating in a large quantity of liquor amnii. The pains exerted too slight an effect on the contents of the uterus to distend the amniotic sac; I had to puncture the membranes with a steel pen. An immense flood of liquor amnii followed. I administered some ergot and brandy. There was still some trickling of scarlet blood. The fœtus was now felt with the left side of the chest over the os. No efficient pains, no advance of labour, which it was plainly desirable to accelerate. I introduced the elastic dilator into the cervix, and distended it. The beautifully smooth, even pressure of this speedily expanded the os, but still some trickling went on. The distension was renewed. In about forty-five minutes from commencement of the operation the cervix had expanded to the size of the rim of a wineglass. I then proceeded to turn, with the fingers of the left hand through the os, and, aided by external manipulation, I seized the left knee; this being brought down, delivery was soon completed. Shortly before the turning was commenced the child was still alive, though enfeebled; but when the knee was being seized the cord was felt and found pulseless. Notwithstanding that the antero-posterior diameter of the pelvic brim was contracted to 3·5″, there was no obstruction to the passage of the head. The child was a male, and stillborn. It had barely reached the stage of seven months' development.

The placenta was withdrawn in five minutes; it was large; the bulk of it must have reached as high as the fundus posteriorly. To have detached this wholly would have been a far *more severe* operation than was the turning, because the whole hand must have been passed through the immature and partially dilated cervix to reach it. Nor could the placenta have been pulled down by dragging upon the presenting part, as some imagine can be done; it would simply have been rent. The part which had covered the os was infiltrated with blood, and covered by a coagulum.

The patient recovered well.

Case 3.—*Placenta prævia centralis.*

November 19th, 1860.—A pluripara, in the ninth month, has been losing blood freely for a week, with slight intermissions. Flooding recurred with increased violence last night. When I saw her at 4 a.m. she was much prostrated. She had yawned, tossed her hands, and was very faint. The placenta was quite over the centre of the os. The cervix was more than an inch long from os externum to os internum. The os externum uteri was sharp, the size of a half-crown. Little bleeding now, and no pains. The placenta was pretty generally detached from the cervical zone. I thought it, however, desirable to deliver. I introduced the elastic dilator quite in the cervix. Under hydrostatic pressure the cervix was expanded freely and easily in five minutes. I introduced the left hand into the vagina, passed the placenta, and ruptured the membranes by aid of a skewer, there being no tension of the amniotic sac. The head was presenting; by aid of external manipulation a foot was brought over the os and seized. Neither cord nor heart was pulsating. The child was delivered stillborn in five minutes. The placenta was withdrawn in five minutes more, the uterus, which was very sluggish, having been made to contract by pressure. The placenta had adhered over the os internum by one side, but completely covered it.

No hæmorrhage followed labour.

The patient made a good recovery.

The action of the elastic dilator was most rapid and effective, enabling the labour, which otherwise might have been protracted and dangerous from recurrence of hæmorrhage and from forcible dilatation of the cervix by hand and fœtus, to be completed at once, to the wish of the obstetrist.

CASE 4.—*Contracted pelvis; cicatrization of os uteri; labour induced by douche, and accelerated by caoutchouc dilator and turning.*

February, 1861.—Mrs. P— has had five children; the first was delivered by craniotomy by Dr. Oldham; the second pregnancy was terminated at eight months by induction of labour, child stillborn; in the third labour perforation was performed by Dr. Wallace; in the fourth, labour was brought on at four and a half months, child breathed and died; in the fifth, labour was induced at eight months, but the child had to be destroyed. She menstruated for the last time on the 7th August, 1860. The promontory of the sacrum is very prominent; the left side of the pelvis is smaller than the right; the antero-posterior diameter is barely 2·5″; the cervix is rigid from cicatricial tissue, but admits the tip of the finger. The patient is short in stature, and has been a boot-binder from childhood, sitting much. The pelvis is very shallow, measuring 3·0″ only from promontory to coccyx. The unpromising history and the contraction of the pelvis, complicated with cicatrices of the os and cervix, determined me not to postpone delivery beyond the seventh month. On the 27th February I directed the vaginal douche to be applied. The instrument was defective, and the attempt failed. On the 28th the douche was fairly played inside the uterus, but no active pains ensued. There was, however, some softening and dilatation of the cervix, with increased mucous secretion, so that I fixed the 1st of March for the completion of the

labour. At 3 p.m. I repeated the intra-uterine douche myself; slight pains followed, and recurred until 7 p.m.; the expansion of the os was felt to be retarded by the cicatricial tissue, which formed a tense ring. The caoutchouc dilator was applied at intervals inside the cervix and uterus for thirty minutes; something was gained, but the tissue was so gristly that I had to incise the os by several nicks with a bistoury. The dilator was then reapplied, and expansion enough was gained to pass three fingers through the os. The natural pains would have been quite inadequate to the expulsion of the head, small as it was, through this still rigid canal. I therefore resolved to turn. I accomplished this by pressing the presenting head forward by the fingers in the cervix, and causing the breech to revolve by external manipulation. In a few minutes a foot was thus brought over the os. The quantity of liquor amnii was considerable, the fœtus freely floating. I punctured the membranes with a steel-pen, and then kept firm pressure on the uterus externally, so as to follow it down as it contracted with the escape of the liquor amnii. By this means the foot was kept over the os; this was now seized and brought down, without my having had to pass more than the first joint of two fingers through the os. At this time the child was alive. The breech could only be brought through the os with great difficulty; the head gave still more trouble. The chief obstacle throughout was the contraction of the soft passages. The pelvis would have enabled a larger child to pass without much opposition. The child was male, very small, still-born. Its development indicated barely six months' gestation. The placenta had to be removed by hand, owing to the impossibility of expelling it through the rigid cervical canal.

The mother went on well for a fortnight, then had shivering, with tendency to fainting and febrile movement. She is now recovering strength.

My belief is that in a future pregnancy there is a fair prospect of delivering a living child by bringing on labour

in the eighth month, and by more fully expanding the cervix by freer incisions and more powerful dilators than I employed on this occasion.

Case 5.—*Contracted pelvis; two labours ended by craniotomy; third by turning, after labour being induced between seven and eight months; fourth labour induced and accelerated by cervical caoutchouc dilator.*

Mrs. H—. I was called in to deliver this patient in her first labour, on the 20th of July, 1857. She was in convulsions, comatose, and the whole body was enormously distended by dropsical effusion. The pelvis was considerably narrowed at the brim, and the presenting head was very large and hard. I extracted the child, after craniotomy, with some difficulty.

On the 31st of July, 1858, I was again called in to deliver Mrs. H—. She was in labour at term; the head had been resting on the brim of the pelvis for some hours, with forehead to pubes. Exhaustion being imminent, and disproportion great, I delivered at once after perforation.

Mrs. H— was again pregnant in 1859. Being a Jewess, she had calculated her pregnancy, according to the custom of her nation, from the date of "returning from the bath," which was on the 21st of September, 1858. I fixed the commencement of June for the induction of labour. On the 1st I inserted a sponge-plug in the os uteri, which was closed, and she used the tepid douche twice a day. On the 6th the os was dilated to the size of a shilling; head felt. Douche and ergot at intervals on the 7th and 8th; flying-pains and greater expansion of cervix ensued. Waters escaped, the patient says, freely towards the evening. At 11 p.m., however, I ruptured the membranes, as I found the excessive distension of the uterus by liquor amnii paralysed its action. I applied a tight binder to support the uterus and stimulate contraction. Labour lingered till 4 a.m. of the 9th, before the cervix was sufficiently dilated to permit trial of forceps. I gave chloroform, and attempted to seize

the head by forceps; the contraction of the pelvic brim was too great to permit it. I therefore passed my left hand partially into the uterus, seized the right knee, and turned by aid of external manipulation. Great force was necessary to bring the head through the brim. But the delivery was accomplished in about five minutes, extraction being hurried in the hope of saving the child. This, a male, was born livid, asphyxiated, heart feebly beating. Marshall Hall's plan was kept up for about five minutes, when respiration became gradually established. The child is now alive.

Mrs. H—, again pregnant, came to me at the end of last year. Dating from "the bath," she had conceived about the 15th of June, 1860. I determined to bring on labour at the end of February, 1861. On the 18th I detached the membranes from the orificial zone; on the 19th, the intra-uterine douche was applied, and the caoutchouc bag used to distend the vagina. Slight pains. On the 20th nothing was done. On the 21st the intra-uterine douche was used, and then the elastic dilator was applied to the cervix; os now soft, and admitting two fingers. I fixed the 22nd for the completion of the labour. In the evening the os was more expanded. Mrs. H— said she had passed liquor amnii; there was a slight disposition to uterine contraction. I expanded the cervix by caoutchouc dilator; in fifteen minutes there was considerable dilatation, but no pains to force down the head. To wait for pains was to wait indefinitely; the passages were prepared. Former experience excluded the forceps; I determined to turn. This was done by passing the left hand into the vagina and two fingers through the os, to press on the child's head, then bringing the knees over the os by pressure with the right hand on the breech at the fundus. In five minutes there was semi-rotation, enabling me to hook down the right knee without passing the hand into the uterus and through the narrow brim, which would have been a difficult operation. The cord was still pulsating. By traction the head was delivered without much force quickly. The child, a female,

was very small. The leg brought down was all along cyanosed, and gave evidence of muscular contraction; when the breech was born meconium was discharged forcibly. When the head was born the face and body were not cyanosed; the child did not breathe at first; the heart and cord were still pulsating. First, the child opened one eye, then, under excitation by aspersion, it breathed gradually fully. The cord was now tied. The placenta was removed under aid of uterine contractions. Mrs. H— and her two children, saved by the artificial induction of labour, are in good health.

Had I not used the caoutchouc dilator to expand the os, it would have been necessary to wait many hours before it would have been safe to turn. Armed with this instrument, the progress and termination of the labour were within my own discretion.

Case 6.—February, 1861.—*Nearly complete cicatricial obliteration of cervix uteri; premature labour induced, and labour accelerated by caoutchouc cervical dilator.*

July 17th, 1857.—My assistance was earnestly requested by Mr. Horton, of Stepney, to deliver a patient in whom labour was obstructed by cicatricial occlusion of the cervix uteri. She had been seen in the morning by Dr. Oldham, who had said it would be necessary to incise the os and perforate the head. At midnight the pains were strong; excitement and anxiety intense; the os was the size of a crown-piece, at which size it had remained for many hours, notwithstanding strong pains. It felt like a hard, cartilaginous ring; it was perfectly indistensible, and consisted of cicatricial tissue, extending from the ring in all directions, puckering the vagina, but especially anteriorly and on the right side. The pains pressed the head firmly against the cicatricial ring, but with no effect in distending it. With a long hernia-bistoury, I incised the os in five different places. The tissue was very hard, cartilaginous, and required firm pressure of the knife to cut it. The os admitted of considerable

expansion after this. It was, however, still obvious that a full-sized head would never be driven through. The pains were strong, and rupture, exhaustion, or craniotomy, were the alternatives present. I perforated, and extracted by crotchet after a laborious operation, great force being required to drag the diminished head through the os. Mrs. C— recovered well.

The previous history of the case was this :—She was now thirty-three years old. She had been delivered of her first child ten years before, "with instruments." She was conscious that she had been injured, and mentioned this to Mr. Horton on engaging him to attend her.

When she recovered from her second labour I endeavoured to overcome the rigidity of the cervix uteri by the persistent use of metallic bougies. The condition of the cervix was thus considerably improved. But when she fell pregnant again, in 1858, the cicatricial tissue absolutely forbad the idea of a natural delivery at term. I determined to bring on labour at the sixth month. This was done by the uterine douche and rupturing the membranes. But again it was necessary to incise the cicatrized os and to perforate before the child could be extracted.

At the end of 1860 Mrs. C— was again pregnant. By aid of the caoutchouc dilator, and the operation of turning without passing the hand into the uterus, I entertained some hope that she might be delivered of a living child. She had menstruated regularly until the end of June. The os and cervix were not so contracted as formerly, but still very rigid and cicatricial. She felt movements of child on the 6th of December. I began to prepare the passages on the 25th of January, 1861, by passing the metallic bougies. This somewhat softened the os by the 1st of February. On this and the succeeding three days I effected further dilatation by metallic bougies and small cylindrical caoutchouc dilators. The vaginal douche was also used twice daily. On the 5th there still had been no pains ; the dilatation was a little advanced, but the caoutchouc dilator has no further

influence on the cicatricial ring, which is now about the size of a dollar. I now determined to complete the delivery. I made several free incisions in the ring, alternating with distension by water-power during three hours. The membranes were then pierced. I then introduced the left hand into the vagina; with great labour, under steady pressure, supporting the uterus by the right hand externally, the fingers reached the presenting head and shoulder. By combined use of fingers internally and pressure on the fundus externally, the head receded and the knees were brought near the os. Then, finding the ring too small to allow the fingers to move freely enough to seize the knee, and reflecting that to give the child a chance of life, it was essential that it should not be dragged through a too rigid and too small ring, I determined to dilate sufficiently by fresh incisions and gradual distension by my hand, estimating that where the greater part of the hand could pass the child's head might come through without being fatally compressed. Under steady pressure, the hand, much benumbed, was pushed up and a knee was hooked down. The child was brought through; the head required considerable extractile force, and I greatly feared it would be strangled by compression of the rigid cervix round its neck. Using all safe expedition, the delivery was completed in five minutes from the birth of the breech. The cord did not pulsate at the time; the limbs became quite flaccid. The heart beat feebly, but there was no respiration. The head and face were cyanosed. Respiration at first was inexcitable, but soon, under gentle frictions, aspersions, and wrapping in warm flannels, it began to breath, and in twenty seconds it cried pretty stoutly. It was very small; its development indicated less than seven months' gestation. The mother recovered without a bad symptom. On taking leave at the end of ten days, mother and child were doing well.

Although I have usually found the intra-uterine injection efficacious up to a certain point, it has not given me entire satisfaction. A serious objection, to my mind, is the impossi-

bility of defining or limiting its action. If a pint or more of water be thrown with more or less force into the uterine cavity, between the walls and the ovum, we cannot be certain that the placenta will not be partially separated by it. It is also an objection that a large and indefinite quantity of fluid may be retained in the uterus, distending it beyond its developmental capacity, and tending to paralyse its muscular fibres by stretching them beyond their power of reaction. Either from this latter cause or in consequence, more frequently, perhaps, of the extreme systemic prostration, and the attendant insensibility and inexcitability of the uterine muscular fibre found in many cases in which speedy delivery is indicated, the intra-uterine douche, like most other provocatives, will often fail in its purpose. And after this failure, the condition of the mother and the peril of the child may render it more urgent than before that delivery should be effected. We want some means that will enable us to deliver safely and at will. This, I believe, we possess in the elastic cervical dilator. This instrument is entirely free from the objections stated against the intra-uterine injection. The distending and exciting power is applied and limited to the exact region where it is most efficacious; no fluid is thrust into unknown places; if it be suspected that the distension is too great, it can be instantly diminished or altogether withdrawn. And if, like other methods, it should fail in evoking sufficient parturient energy, it will have done what no other method can be relied upon for doing, namely, it will have expanded the soft passages so that the obstetrist may, without delay, deliver by the forceps or by turning.

As a means of overcoming rigidity of the os and cervix, this dilator is more certain than any other I have witnessed. It may in most cases supersede bleeding, tartar emetic, the local application of belladonna, and incisions, and, above all, forcible distension by the hand.

As an accelerator of labour, the elastic dilator is so perfect an instrument that it may supersede altogether the *accouchement forcé*. In cases of convulsions, of uncontrollable vomiting, exhaustion, hæmorrhage from detachment of the

placenta, either prævial or fundal, in all cases in which immediate delivery is indicated, this instrument may be depended upon to accomplish that, gently and safely, which has hitherto been done violently, precipitately, and therefore with danger.

The instruments I employ in the preparatory stage for the primary dilatation of the cervix uteri are, if the cervix is very small and rigid, first, short metallic bougies, scooped out hollow for the sake of lightness and to afford free passage for discharges; secondly, a series of cylindrical caoutchouc dilators, the introduction of which is facilitated by being mounted on a flexible metallic stem, a foot or more in length, and which can be withdrawn when the dilator is *in situ*, previously to distension with water. In the provocative and accelerative stages larger cylindrical bags are required; and to obviate a tendency which the cylindrical or pyriform bags have to slip out of the cervix into the vagina or forwards into the uterine cavity, I have had one made of a fiddle-shape, so that, when distended, the bulging out at either end maintains the instrument in the cervix, an increased pressure being exerted upon the two points of chief resistance, the os internum and the os externum uteri. When labour is somewhat advanced, it is an easy matter to insert the larger bags, rolled up, into the cervix by the aid of the fingers alone. After introduction, the free end of the tubular portion is attached to the ordinary obstetric syringe-pump by which the bag is filled with water.

The account of the means of effecting premature delivery would not be complete without some notice of the new method of turning without passing the hand into the uterus. We may succeed perfectly in dilating the passages, we may puncture the membranes, we may exhaust all the means of exciting the uterus to contract, and yet find that labour makes no progress, or the child may present, as is very frequently the case, unfavorably. Moreover, we have to deal with the uterus at a stage of immature development, when it is smaller and less distensible than at the full period. In this condition forcible dilatation of the cervix by the hand,

and the violence required to squeeze the hand through the cervix high up into the cavity of the uterus to turn in the ordinary manner, is a proceeding likely to be attended with considerable difficulty, and certainly with considerable danger. The like objection will also hold against the forceps. This is pre-eminently the case in the instance of placenta prævia, where the highly vascular cervix is liable to be bruised, and the injury to be followed by pyæmia. But resting the case simply on the argument that we should never use unnecessary force, then I contend that passing the hand into the uterus is altogether to be condemned. It is both more easy and more safe to turn and to extract without. I presume that no one who has had much experience in cases of difficult turning has not found that the right hand placed outside on the mother's abdomen is often far more efficient in version than the left hand which seizes the knee or foot in the uterus. By the steady, consentaneous action of the two hands in this way, it has happened to me many times to turn with comparative ease where I had been called in to eviscerate, after fruitless attempts at turning by others. To my colleague in the Maternity Charity, Dr. Braxton Hicks, must, however, be assigned the merit of having been the first to bring this method of turning to perfection, or, at least, of having published the first clear description and clinical illustrations[1] of it. This opertion is the final resource that enables us to bring a labour to conclusion at our discretion.

Classification of the means used for the induction of labour.

The means at disposal for the artificial induction of labour may be classified according to their physiological action, and according to their therapeutical application. It is desirable to consider them from both points of view. The length to

[1] 'Lancet,' 1860.

which I have already trespassed upon the indulgence of the Society precludes me from entering upon a detailed analysis of the physiological aspect of the subject.

It may be stated, as a general fact, that all the means employed in the induction of labour act by stimulating the spinal centre to exert itself in causing contraction of the uterus. Some of these agents act directly upon the spinal marrow, being carried thither in the blood—such are ergot of rye, borax, cinnamon, and other drugs. Some evoke the energies of the diastaltic system, by stimulating various peripheral nerves—such are rectal injections, the vaginal douche, the colpeurynter, the carbonic-acid-gas douche, probably the irritation of the breasts by sinapisms and the air-pump, the cervical plug, whether in the form of sponge-tent or the caoutchouc dilator, the separation of the membranes, the placing a flexible bougie in the uterus, the intra-uterine injection, the evacuation of the liquor amnii, and galvanism.

The artificial dilatation of the cervix, the evacuation of the liquor amnii, and the intra-uterine injection, act in a more complicated manner, and not simply through the diastaltic system.

Regarded from a therapeutical point of view, or in their application to practice, labour-inducing agents have been divided into—

(A) Those in which the integrity of the ovum is respected to the last.

(B) Those in which the ovum is interfered with, either by puncture or by partial detachment from the uterus.

I would propose the following as a more scientific and more instructive classification :

(A) Preparatory measures.
(B) Labour-provocative measures.
(C) Labour-accelerating measures.

I attach great importance to this arrangement, because I believe that in the majority of instances it is desirable not

to trust to any single agent or method, but to proceed in regular gradation through the stages of preparation of the system and of the passages concerned in parturition, the evocation of the contractile energies of the uterus, and the acceleration of delivery, selecting such means in each stage as are most suitable. I believe that much danger to the child, and some risk to the mother, may be avoided by duly preparing the vagina and cervix uteri by partial dilatation and softening through the agency of the colpeurynter and the cervical plug. These, although they will sooner or later act as provocatives of labour, are chiefly efficient as dilators of the passages. The stage of preparation completed, we may endeavour to excite uterine contraction by the vaginal douche, by rectal injections, by the partial detachment of the membranes from the lower part of the uterus, by the exhibition of purgatives; the ergot I am inclined to discard, and know that it can be dispensed with.

If the labour hangs, if the pains are difficult to evoke, there is no necessity to abandon the patient to the tortures of suspense or the risk of accidents. We have in reserve the accelerative measures, which, the soft parts being duly prepared, place the termination of parturition entirely within our control. We may resort to abdominal frictions; the binder, to support the uterus firmly against the spine; the larger uterine dilators, which are made to expand inside the cervix and to press, after the manner of the tense amniotic sac, upon the os internum uteri, the most active seat of excitation of the parturient energy; the rupture of the membranes, an operation free from all objection if performed just prior to the natural or artificial termination of labour; and, lastly, we have the operation of extraction after turning by combined internal and external manipulation, without passing the hand into the uterus.

By the judicious consecutive use of these means we have it in our power to terminate a labour not only on a fixed day, but almost at a predetermined hour, and that with a greater amount of ease and security to the mother and child than has been hitherto attained.

As every improvement in the instruments, whether material or immaterial, at our disposal, seldom fails to extend their uses, so may we hope to see the perfected operation for the induction and acceleration of labour applied to the relief of emergencies and dangers which have hitherto baffled the skill of the physician.

Mr. Baker Brown thought that Dr. Barnes, in his admirable paper, had exhausted the subject. Such papers were of the highest value, and, coming from a Society like this, would afford support and encouragement to obstetric practitioners, especially in the country, and enable them to induce premature labour without fear of being condemned by those who still opposed such a proceeding. Mr. Brown hoped that Dr. Barnes would follow up the subject, and in a subsequent paper treat of the indications which called for the induction of premature labour. He agreed with Dr. Barnes as to the little value to be placed on statistics in this subject, and thought that the well-recorded cases of individual practitioners in midwifery were of greater intrinsic worth, and therefore more reliable, than a mass of figures tabulated together to form statistical tables, often so arranged as to carry out the peculiar views of the individual compiler. He was glad to find, from the tables which the author had placed before the Society, that the most successful mode of inducing premature labour yet practised was that of puncturing the membranes. Mr. Brown had now for a period of twenty-five years adopted this mode of treatment in many cases, and could not recollect the loss of a single child or mother. He had tried the injection of hot and cold water into the vagina, as at one time so strongly recommended, and had found it so uncertain and tedious as to compel him to discontinue its use. The new plan that Dr. Barnes now recommended was evidently an excellent one, and differed from Dr. Keiller's only in the use of water instead of air. He emphatically said "Dr. Keiller's," because the plan had been unjustly ascribed to Mr. Murray, who was an assistant to that gentleman. Mr. Brown was much interested in the two cases recorded by Dr. Barnes of incision of the os uteri before he could proceed to bring on premature labour. This proceeding was to be highly commended, as it was well known to every practical accoucheur that in primiparous cases the os, when rigid and unyielding, was frequently lacerated by the violent expulsive uterine efforts, and yet no harm occurred to the woman from such laceration. So self-evident was this, that some gentlemen were in the habit of dividing the os with a bistoury, and by so accelerating labour prevent the chance of laceration. Mr. Brown could bear out from his surgical experience of operations on

the os that the proceeding could be had recourse to with safety and advantage.

Dr. Priestley said the Society was much indebted to Dr. Barnes for his able paper. He quite agreed that the induction of premature labour was one of the most important innovations which had been made in midwifery, and every contribution which tended towards the perfection of the operation deserved the utmost attention. Nothing, however, showed more conclusively the difficulty and uncertainty of performing it in certain cases than the diversity of methods which had been proposed. Dr. Barnes had enumerated almost a dozen methods of inducing premature labour, and proposed to add another to the list. He (Dr. Priestley) was little acquainted as yet with the method of inducing labour by caoutchouc dilators, although he knew his friend Dr. Keiller, of Edinburgh, had taken great pains in adapting them to various obstetric purposes, and he had read with interest the case described by Mr. Murray. He must, nevertheless, protest against the opinions expressed by the author of the paper, and endorsed by Mr. Baker Brown, concerning the value of statistics in determining questions of practice. Whatever might be the value of individual observation and experience, they formed but very limited data on which to found general conclusions, and it must be borne in mind that statistics were really nothing more than the results of personal observation by many individuals, arranged and tabulated. That statistics might be abused was no valid argument against their legitimate use. It was well known that impressions made upon the mind concerning the success of any given practice were liable to be erroneous until the account came to be cast up and the results shown in figures. In determining the safety to mother and child of the several methods of provoking labour, statistics were particularly valuable; and nothing appeared more conclusive of the advantage of one method over another than the 88 per cent. of children saved by Dr. Hamilton, who separated the membranes, but did not puncture them, as contrasted with the 45 per cent. of Dr. Merriman, and the still smaller percentage of Dr. Lee, both of whom adopted the plan of puncturing the membranes. Of the various modes which had been suggested Dr. Priestley had personally found the injection of tepid water into the cervix uteri the simplest and the best. It needed nothing more than a gum-elastic catheter adapted to a Higginson's syringe, and the operation was almost painless, in most cases easily performed, and usually brought on labour in less than twelve hours. The water so injected had been said to be liable to separate the placenta, and one case had been published in which air had entered the uterine veins during the operation and caused the death of the patient; but it must be recollected that such alarming results were extremely rare, and probably might be entirely avoided by

proper precautions. One disadvantage of injecting a large quantity of water into the uterus, according to Cohen's method, until the patient complained of a feeling of distension, had not been alluded to. By distending the lower segment of the uterus and altering the ovoid form of the organ, the child was very likely to change its position and present preternaturally. Twice had Dr. Priestley witnessed this. In a case where he induced labour some time ago for Mr. Fergusson, of Notting Hill, the head distinctly presented when the water was injected, but when labour came on the child presented by the feet. Latterly he had taken the precaution to inject not more than four or six ounces of water, which was usually effective, and less likely to alter the presentation. The dilatation by caoutchouc bags might prove serviceable in certain cases, but under ordinary circumstances he was well satisfied with the injection of warm water.

Dr. Hall Davis remarked that, in connection with the Royal Maternity Charity and other institutions during many years, he had frequently been called upon, on account of various indications, to resort to the induction of premature labour, and had employed several of the methods which had been proposed. In the early part of his practice he adopted the original mode—that by the stilet, first performed in 1756 by Dr. Macaulay, the colleague of Dr. William Hunter. He (Dr. Davis) made a small aperture, so as to ensure a gradual escape of the liquor amnii. In several cases consecutively this plan was perfectly successful as to the mother, and the children also; but subsequently two cases came in succession where the children were stillborn, which, it seemed to him, was due to the pressure exerted on the body of the child in the absence of the liquor amnii to defend it. Since the occurrence of those cases he had never, except where profuse hæmorrhage had been the indication, resorted to the discharge of the waters for the induction of labour—as a *first* measure. It should be, he thought, a great object with obstetricians to save the bag of liquor amnii for the labour, as being nature's providential arrangement for safely dilating the genital passages, and at the same time for defending the child from dangerous pressure. His practice now, therefore, was to preserve the waters intact, if possible. He *first*, if practicable, proceeded by introducing the index finger gently through the os uteri, and upwards outside the membranes as far as he could reach; he then swept around it, thus dislodging the mucous plug, and separating the membranes to a corresponding extent. He subsequently introduced a piece of soft sponge, previously oiled, as large as could be passed without much difficulty. Where the os uteri would not admit the finger, he commenced with a sponge-tent, supporting it with a piece of sponge at the top of the vaginal tube. He had found these to answer in most cases; in other instances he had resorted to the use of an elastic

bougie, passed high up, about half way into the uterus, outside the membrane, previously drawing off the urine, and leaving it *in* for five or six hours, secured *in situ* by tapes, so far as to prevent its slipping out again. This he found to answer only in one recent case; labour came on in four hours. He had also employed, and with success, the method usually accredited to Dr. Cohen, of Hamburg, consisting of the injection of water into the uterine cavity. The elastic tube used for the purpose of conveying the fluid to its destination should be passed up cautiously; care must be taken not to rupture the membranes by too forcible injection of the water, to allow it free egress, and also to guard against the injection of air with the water, especially by keeping the end of the suction-tube well immersed in the water to be injected. As regards the induction of labour by the ergot of rye, he (Dr. Davis) could testify that it had the effect of inducing it, but, unfortunately, the children appeared to be destroyed too frequently under its influence. He must say that he was much pleased with Dr. Barnes's paper, and with his proposal of an elastic dilator, water being the medium, as a means of dilating the os uteri, and so of inducing labour. Any addition to the previous resources for the induction of labour, having for its object the saving of the liquor amnii for the useful offices it serves to perform in the act of parturition, must, he appehended, be considered a great improvement in careful hands.

Dr. Tyler Smith was sure that great good would result from the paper and the discussion which had followed it. The subject itself was most important; and the intrinsic excellence of the paper, and the original proposals which had been made by the author, would do much to attract the attention of the profession to the induction of premature labour. In proper cases it was of the highest value, and its application in practice was still only in its infancy. What had taken place would, no doubt, lead to its more extended adoption. He did not think he should have found any one holding a higher opinion of this operation than himself, but he could not quite agree with Dr. Barnes in placing it before the forceps. After the use of the forceps, he held the induction of premature delivery to be the most important and life-saving of all obstetric operations. He had tried most of the methods of proceeding which had been proposed, and for some years had looked upon the vaginal injections of Kiwisch (which he was the first to use in this country) as far better than puncture of the membranes or any other plan. For the last three or four years he had, however, used uterine injections, and had found them an improvement upon the method of Kiwisch. He had not known of any accident from the vaginal douche, except in a patient whose case had been communicated to him, and who was placed in a cold bath during the douche. In this instance death was caused by internal con-

gestion and hæmorrhage. The weak point of the vaginal douche was that sometimes labour was several days or even a week before it came on. The only death which he had known to follow the uterine douche or injection, occurred from puerperal fever, and was not caused by the mode of producing labour. His plan had been to inject about half a pint of warm water, of the temperature of the blood, into the uterus, through a catheter or tube passed four or five inches into the uterus. The injection of the fluid should be gentle, care being taken not to inject air. He had never known the coming on of labour to be deferred as much as twelve hours from the time of using the injection, and generally it had commenced immediately. So far there seemed little to be desired. He had never known hæmorrhage to be produced by its use. He could not join in the light estimate which had been taken of midwifery statistics. These were, in his opinion, of high value, and their collection was one of the most useful objects of the Society. He regretted also to hear the manner in which bold incisions into the os uteri to facilitate labour, and ruptures of this organ, had been spoken of. He thought the os and cervix uteri entitled to greater respect; and he should certainly feel it a grave accident if, at any time during labour, the os were lacerated so as to allow the head to pass through it suddenly. Any new method of inducing labour with safety and certainty would, he had no doubt, receive due attention. He should certainly try the ingenious instruments devised by Dr. Barnes, and should be truly glad to find them an improvement upon the injection of the uterus. It might be necessary to caution the profession, who would no doubt use the method of Dr. Barnes, against dilating the os and cervix too suddenly, so as to incur the risk of producing contusion or rupture of the lower part of the uterus, as the amount of fluid pressure which could be brought to bear was enormous. He considered that Dr. Barnes had earned the gratitude of the Society by the manner in which he had brought this most important subject before it.

Dr. Barnes, in reply, said that if it was found that out of 1000 labours in England 5 women died, while 15 or 20 died abroad, that might justify the conclusion that English midwifery was more successful than foreign. But the moment we sought to extract pathological and therapeutical laws from the compilation of statistical tables, we were surrounded by so many complications and disturbing causes as to render any conclusions unsafe. If in his bedside observations he saw that by puncturing the membranes too early the child's life was imperilled by the head being driven against or through an imperfectly prepared cervix uteri, he was convinced of the error of the practice, and was in a position from which he could not be dislodged by the abstracted facts of statistical tables, which could not be subjected to cross-examination

and verification. In reference to the method of inducing labour which he had brought forward, he disclaimed the idea of advocating it to the exclusion of others; he rather insisted upon the necessity of observing the three stages he had defined—preparation, provocation, acceleration; and pointed out that by due observance of this principle and the proper application of the caoutchouc dilator to the cervix, and the improved method of turning, the induction of labour was no longer a matter of uncertainty as to time, but one completely within our control.

May 1st, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—47 Fellows and 6 visitors.

The following gentlemen were duly elected Fellows of the Society:—George Frederick Farr, L.R.C.P. Edinb., Union Street, Southwark; Samuel Day Goss, L.R.C.P. Edinb., Blackfriars Bridge Road; Charles Hutton, M.D., Physician-Accoucheur to the General Lying-in Hospital, Lowndes Street; John Matthews, M.D. St. And., Mylne Street, Myddelton Square; William Alexander Russell, L.R.C.P. Edinb., F.R.C.S., St. Albans; Andrew Sisson, Esq., Reigate.

A SUBSTITUTE FOR BRANDY IN CASES OF EXHAUSTION.

Dr. Druitt exhibited a specimen of liquid essence of beef, prepared under his directions by Messrs. Brande, of Mayfair. When lean beef, chopped up, is enclosed in a jar, and subjected for an hour or more to heat, it separates into three portions—fat, fibre, and liquid essence. The last is strained off, and the fat separated by means of blotting-paper. It is a clear, amber liquid, of an intensely aromatic smell and taste, very stimulating to the brain. Different samples of meat yield various quantities of it, and it contains a variable proportion of gelatinous matter; but when prepared from old, lean meat, it is darker in colour, and contains scarcely any gelatinous matter. When evaporated to dryness, it yields about one sixteenth of solid residue, but this, too, is subject to great variety. The extract soon effloresces with the saline matter contained in the meat.

This is not intended as a substitute for common beef tea nor for common broths and soups, the gelatinous elements

of which are of the highest value, but it is recommended as an auxiliary to and partial substitute for brandy in all cases of great exhaustion or weakness, attended with cerebral depression or despondency. It is free from anything that loads the stomach, and appears to exert a rapid and remarkable stimulating power over the brain. It is therefore an antidote to the conditions which are apt to lead, through mental depression, to the pernicious habit of spirit-drinking. In the sequelæ of severe and exhausting labour it is invaluable.

CASE OF IDIOPATHIC PERICARDITIS IN A CHILD TWO YEARS OLD.

By A. Meadows, M.D., M.R.C.P.,

ASSISTANT-PHYSICIAN FOR DISEASES OF WOMEN AND CHILDREN AT KING'S COLLEGE HOSPITAL; PHYSICIAN-ACCOUCHEUR TO THE ST. GEORGE'S AND ST. JAMES'S DISPENSARY.

Cases of idiopathic inflammation of the pericardium are so extremely rare in childhood that the following case seems worthy of record.

The patient was just two years old. It was brought by its mother as an out-patient to King's College Hospital, who stated that it had been ailing three or four days with feverish symptoms and a cough, but there was no sign of rheumatism. It was thought merely to be suffering from a cold, and some medicine prescribed accordingly. In a few days it was seized with a fit and died, and on post-mortem examination there was found inflammation of the pericardium, both layers of which were covered with delicate, soft flakes of recent lymph. There was also a little fluid effused into the pericardial sac. No other disease was found in the rest of the viscera. The child had enjoyed good health up to the time of the present attack, the exact nature of which was not discovered till after death, there having been during life nothing to direct attention specially to the heart. The case

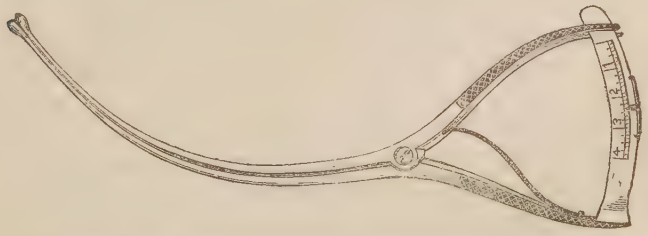
appears to indicate the possibility of a greater frequency of this affection in childhood than is generally supposed; the symptoms were just those which are often seen in children supposed to be suffering merely from cold, with some degree of feverishness, and for a few hours before death there was noticed difficulty of breathing, with a short, hacking cough.

NEW PELVIMETER.

Invented by I. Lumley Earle, M.D.,
RESIDENT SURGEON-ACCOUCHEUR TO THE GENERAL DISPENSARY, BIRMINGHAM, AND LATE RESIDENT PHYSICIAN-ACCOUCHEUR'S ASSISTANT TO KING'S COLLEGE HOSPITAL.

(Communicated by Dr. Meadows.)

The accompanying sketch is intended to illustrate a pelvimeter which I have had made by Mr. Matthews, of Portugal Street. It consists of a pair of curved blades about seven inches long terminating in two small bulbs, which are kept in close apposition by the curved steel spring placed between the two handles. At the extreme end of the handles, and fixed to one of them, is a steel plate engraved so as to indicate the extent to which the *ends* of the blades are separated when in use. On the outer edge of this plate slides a small clamp, which is moved along by the handle, and points on the indicating-plate the number of inches or parts of an inch between the open blades. This clamp remains in the position it is placed by the handle.



In using the instrument it is intended to be intro-

duced with the curve adapted to that of the sacrum, and the point guided by the finger to the back of the symphysis pubis. The handles are then compressed and the blades opened so that the second blade reaches the projecting promontory of the sacrum, having done which, the instrument is again closed by force of the spring and withdrawn, when the pelvic diameter can be read off the indicating-plate.

It is hoped that this pelvimeter, combining accuracy of results with great facility of application and as little inconvenience to both patient and practitioner as possible, will remove a prejudice which exists against pelvimeters generally.

A case of Dystocia, from Dorsal Displacement of the Arm, by J. Jardine Murray, Esq., F.R.C.S., was read to the Society.

ON THE TREATMENT OF CASES OF ABORTION IN WHICH THE PLACENTA AND MEMBRANES ARE RETAINED.

By William O. Priestley, M.D.,

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When gestation is brought to a premature termination by accident or disease, the process by which the ovum is expelled varies very much in different cases, and it is considerably modified by the period at which pregnancy has arrived.

If abortion takes place during the first and second months of utero-gestation, the ovum is occasionally expelled entire; but perhaps more frequently it is extruded wrapped in the ovular decidua, as its outer covering, the decidua uteri being detached and thrown off separately. In both

these cases the chorion and amniotic sac remain unruptured; and the embryo, if it has not been destroyed by atrophy or disease, remains as the centre of the aborted mass. It is comparatively a less common occurrence in the first two months for the embryo to be extruded first by itself, and be followed afterwards by the expulsion of the secundines. The reason for this is probably to be found in the fact that at these early periods the placenta is not fully formed, and the decidua is readily separated from the uterine walls. Besides this a space exists between the two layers of decidua known as the decidual cavity, and the ovum, being only attached to a limited portion of the interior of the uterus, at the situation of the decidua serotina, is easily broken off and extruded, even when the decidua uteri remains *in situ*. The fœtal membranes probably escape being ruptured, because the contractile power of the uterus is feeble at this period of development, and the size of the body to be expelled through the os uteri is small compared with that which the ovum attains at a more advanced date. In the third, fourth, and fifth months the placenta has attained a considerable size and more perfect organization, and it has contracted intimate adhesions with the interior of the uterus. The contractile power of the middle coat of the uterus has so far increased that during abortion it forcibly compresses the ovum, but is often not capable of detaching the placenta and membranes from the adhesions they have formed in the cavity. Even when detachment has taken place, the ovum is now so large that it cannot so readily be pushed through the undilatable os uteri as at an earlier period. Hence it results that during the uterine contractions the membranes give way at their weakest or most compressed point, the liquor amnii escapes, the slender funis is snapped across, and the embryo is expelled.

A variable amount of hæmorrhage attends this process, and the placenta and membranes may within a short period be spontaneously expelled, or an examination by the vagina may discover them lying in the os uteri, whence they are easily removed by the finger or some simple instrument.

In a large number of instances, nevertheless, the uterus, after the escape of the fœtus and liquor amnii, contracts in all its dimensions, and after repeated ineffectual attempts to expel what remains in its cavity, the os uteri closes on the placenta and membranes, and action ceases.

Cases of retention of this kind are comparatively frequent in obstetric practice, and many practitioners have, no doubt, experienced difficulty and embarrassment in treating them. As to the propriety of manual interference for the removal of the secundines, the most diverse opinions exist; some obstetricians holding that such interference is altogether inadmissible at this early period of pregnancy; others, that it is not only justifiable, but necessary, in all cases where nature is insufficient to their expulsion; some authors, again, believing that no definite rule of treatment can be laid down which shall be applicable to all cases, profess an elective practice, and treat each case according to its individual emergencies. Few obstetric writers object to the removal of the placenta and membranes by the hand or some instrument from the uterine cavity, when serious and uncontrollable hæmorrhage complicates their retention, because if they deprecate manual interference as dangerous in itself, a more immediate danger to the life of the patient then exists in the profuse loss of blood. But when no immediate and alarming hæmorrhage occurs, the dangers to be apprehended are more remote, and the whole question hinges upon the comparative danger of leaving the secundines for a prolonged period in the uterus, and of a manual operation for their speedy removal.

It is on this point that the opinions of obstetric authorities differ so widely.

Dr. Denman ('Introduction to Midwifery,' 2nd ed., vol. ii, p. 283) says—"It has been imagined that the safety of the patient very much depended upon the complete and speedy expulsion of the placenta, and when it was retained very active deobstruent medicines, as they are called, were supposed to be necessary and strenuously given for the purpose of expelling it, lest it should become putrid, and

some of the putrefied parts be absorbed into the constitution. I believe the whole of this supposition is groundless, having seen many instances of its being expelled in a very putrid state at different periods of pregnancy, when the patient was in perfect health; and when the patient had a disease the putridity of the placenta clearly seemed the consequence, not the cause, of the disease. At all events, much less mischief may be expected from the retention of a putrid placenta than from attempts to force it away by the medicines usually given or by manual assistance."

Dr. Davis, in his 'Principles and Practice of Obstetric Medicine' (pp. 1036), remarks—"When abortion takes place at the early periods of gestation, it frequently happens that the fœtal part of the ovum is expelled while the placental portion and its appended membranes are retained. This is the more unfortunate, inasmuch as art has little in its power to effect for the relief of such cases. The portions of the ovum so retained are, however, in most cases, ultimately expelled, either at once and in one mass or afterwards in successive and smaller pieces, until the whole shall be discharged. . . . . The author recollects a case of abortion of which the fœtal part of the ovum was expelled at about the tenth week of gestation. The remainder was permanently retained, without, however, producing any future detriment to the patient. It must, on the other hand, be admitted that putrid and putrefying portions of retained placenta have often been productive of very serious consequences, such as abominably fetid discharges from the vagina, great hæmorrhages, feverish affections, accompanied by a small, sharp pulse, profuse perspirations, especially at night, much prostration of strength, tenderness and intumescence of the abdomen, entire loss of appetite, with corresponding derangement of the chylopoietic and gastric functions, and, finally, by the most alarming nervous and hysterical symptoms."

To mitigate these serious inconveniences Dr. Davis recommends intra-uterine injections of warm water, but no manual interference for the removal of the cause.

Dr. F. H. Ramsbotham, at p. 666 of his 'Obstetric Medicine and Surgery,' has the following:—"It may happen, however, that the ovum may break, that the fœtus may be expelled, and the placenta retained for days, weeks, and perhaps months. It is remarked, indeed, that, in general, the placenta of a young embryon is retained much longer than one belonging to a perfect fœtus; and so long as there is any portion of that mass in utero so long the woman is not safe from flooding, and so long she is liable also to other dangers, more remote, but by no means despicable. It is, therefore, highly desirable that, when the embryon has passed, the placenta should be removed as speedily as possible; but this cannot be effected by the agency of the funis, for the cord is so tender that the least straining will cause it to break. We shall be equally unsuccessful in any attempts we may make to get it away by the introduction of the hand, for the uterine cavity is not large enough to admit the passage of the hand within it. Unless, then, it be lying partly in the vagina, so that we can embrace it between two fingers and draw it away, we must rely on those means best calculated to prevent hæmorrhage, including the plug, and give ergot of rye, in the hope of exciting the uterus to such efficient action as will eventually throw it off."

Dr. Robert Lee teaches that when it is ascertained that a portion of the ovum has escaped, leaving the uterine decidua in the womb, that "the patient should be informed that a portion of the ovum is still retained, and she should not be permitted to leave the recumbent position, and the os uteri should be examined occasionally, that the decidua may be removed when it has been forced into the cervix." ('Lectures on Midwifery,' p. 194.)

Dr. Dewees ('System of Midwifery,' p. 415) lays down the dictum, that "within the first five months the uterine cavity is too small to admit the hand or a couple of fingers, or even one; therefore any attempt to deliver the placenta by the hand alone will almost always fail," and—

Mr. Ingleby, in his work on 'Uterine Hæmorrhage,' holds

that "no manual extraction of the placenta can be effected prior to the sixth month" (p. 117).

Dr. Burns, in his work on 'Abortion,' recognises the danger attending the retention of the secundines, but deprecates "rash or unnecessary attempts to extract them." He relies mainly on injections and palliative remedies, with the occasional use of emetics to favour expulsion. The opinion of Dr. Meigs is much to the same effect.

Dr. Blundell and Dr. Churchill admit that a manual operation for the removal of the secundines is practicable, and in certain cases advisable, but regard the proceeding not free from danger, and only to be had recourse to in exceptional cases. Dr. Blundell considers it essential for the well-being of the patient that the operator's hand should be small and his manual skill considerable, and Dr. Churchill urges the importance of removing the secundines before they have putrefied, if they are removed at all.

Dr. Tyler Smith differs from all the before-mentioned authorities, and states that, when necessary, there need be no hesitation in introducing "the hand into the vagina, in order to get the finger into the uterus." He further states—"I have never seen any ill effects arise from such an introduction of the hand and finger." And again—"A case can hardly occur in which the embryo and membranes, or portions of the latter, when retained, cannot be detached and brought away by the finger. Time and patience are sometimes necessary for this manipulation, but I have never known it fail." ('Manual of Obstetrics,' pp. 154-5.)

These quotations sufficiently prove that the opinions of eminent obstetric teachers are at issue on what must be regarded as an important point of everyday practice, and the student and young practitioner who seeks to be guided by authority may well be bewildered by the conflicting views. It is important to obstetric practitioners generally to have decided what is the safe and proper practice to be adopted in abortions, when the secundines are retained, inasmuch as they may be charged, on the one hand, with neglecting a duty they ought to have performed or, on the other hand,

with improper and meddlesome practice. In hospital and private practice I have repeatedly met with the deleterious results of placental retention, and it has seemed to me that many practitioners underrated the dangers of leaving an early placenta in the uterus, or regarded its extraction as more formidable than, in ordinary circumstances, it really is.

It is one of the uses of a Society like the Obstetrical that, while it does not necessarily endorse the subject matter of any paper read before it, the weight of opinion expressed in subsequent discussion may do much to place a question of practice in its true light, and in some measure, at least, determine the propriety of any given procedure.

In endeavouring to determine what should be the conduct of the practitioner in cases of abortion, when the placenta is not thrown off spontaneously and speedily, it may be well, in the first place, to inquire what is likely to be the result when the case is left entirely to nature, and to what dangers a patient is exposed by its long retention. The history of comparatively few examples in which serious consequences have supervened to retention of the young placenta have been recorded, but obstetric authors are nearly unanimously agreed that dangers do occasionally arise from such a cause, and that a patient is not safe until the placenta is evacuated from the uterus. Dr. Denman stands alone in attributing the putrescence of a retained placenta to some disease in the system, and in disbelieving that a placenta spontaneously putrefying in utero can act as a poison to the general system.

It must, I think, be conceded by all who view this question without prejudice that, although a number of cases may be met with in which no great harm follows the retention of the placenta after abortion, yet that in many other instances considerable inconvenience is experienced, and even great danger. The sources of danger may be stated to be the following:

1st. As long as the placenta or any portion of the

secundines remain in utero, so long is the patient liable to flooding. Hæmorrhage in some cases is continuous and profuse from the time of the expulsion of the fœtus, or it appears in gushes which correspond to contractions of the uterus, exerted for the purpose of expelling its contents. In either case it may be of so urgent a character that active interference of some kind is promptly needed for the safety of the patient.

In other instances no immediate inconvenience is experienced. The patient, although aware that something has yet to come away, resumes her occupations until bleeding recurs. Slight, perhaps, at first, the discharge of blood increases, and though it may abate with rest and proper care, the loss is repeated again and again, until anæmia is produced, with all its attendant derangements. The interrupted attempts made by the uterus to expel what is now a foreign body in its cavity separate the placenta only bit by bit from its adhesions, and hæmorrhage attends each renewed effort, while the process of separation being slow and tedious in proportion to the imperfect contractile power of the uterus, the period when it may be thrown off is distant and uncertain.

It deserves notice, also, that a considerable proportion of abortions are not produced by accident, but are the result of diseases of the ovum, and that some of the morbid changes which the ovum undergoes through disease have the effect of rendering the adhesions between the uterus and fœtal membranes unnaturally intimate, and separation more difficult. The effect of some forms of disease in the ovum is, no doubt, to obliterate, partially or entirely, the vascular connexions between the uterus and placenta, and under these circumstances little hæmorrhage might be anticipated during separation of the placenta. But a diseased placenta retained in the uterus provokes hæmorrhage other than that flowing from separation of the utero-placental vessels; it acts, in fact, like a polypus or fibrous tumour, irritates the interior of the uterus, and produces congestion of its mucous membrane, which is relieved by flooding.

Case 1.—I attended some time ago a lady who had aborted three or four times consecutively in the fourth month of gestation. On the last occasion the placenta was not thrown off until three months after the birth of the fœtus. During the whole intervening period a slightly fetid discharge escaped from the vagina, and hæmorrhage recurred on the slightest provocation. It began sometimes spontaneously, but a walk of even a short distance was sufficient to bring it on at any time. The patient became at length so anæmic and weak that some interference was urgently demanded, and as the os uteri was not large enough to admit the finger, a sponge-tent was introduced. This, on being withdrawn the next day, was followed by an irregular mass the breadth of two fingers, which proved to be a portion of decayed placenta, and in which the villi, fatty and atrophied, were sufficiently distinct under the microscope. No further hæmorrhage followed the expulsion of this portion of placenta, and the patient made a tedious but perfect recovery. The putrescence of the discharge was comparatively slight in this instance, but the placenta had evidently been reduced to the size of the piece which was expelled by slow disintegration. The chief danger arose from the persistent and oft-recurring hæmorrhage.

But, secondly, an obvious source of danger to the patient arises in the decomposition which the membranes and placenta commonly undergo when allowed to remain for any length of time after the expulsion of the fœtus. Dr. Ramsbotham remarks that the placenta of an early ovum does not always putrefy when left in the uterus, although that of a child at the full time invariably does so within thirty or forty hours. There can be no doubt of the fact, however, that even in the early months the placenta and membranes very frequently take on putrefaction when left behind in the uterus. The putrescence is probably facilitated by the access of air to the uterine cavity when the fœtus is expelled, and the instances in which decomposition and disintegration do not take place may be regarded as exceptional. The

effects produced on the health of the patient by the retention of the putrefying secundines vary considerably, and this without any very obvious reason.

In a certain proportion of cases very slight local or constitutional disturbance ensues, and the woman suffers little beyond the inconvenience of having a fetid and disagreeable discharge from the vagina.

Occasionally inflammation is lighted up in the uterus and its appendages, and the system is not affected, except by a general febrile condition sympathetic of a local inflammatory attack.

The following case is an illustration of local inflammation of the uterus and surrounding cellular tissue supervening on retention of the placenta after abortion.

Case 2.—A woman, æt. 42, was admitted into Prudhoe Ward, Middlesex Hospital, on the 4th of December, 1860. She stated that she had miscarried two months before, and that the fœtus had escaped first, leaving the placenta behind, which was not removed until seven days afterwards. It had then come within reach, and was removed in small pieces. Before the placenta was removed she had lost a considerable quantity of blood, which was checked by plugging and the use of cold water. She had also been affected with a fœtid discharge, and had great pain and tenderness over the region of the uterus. Rigors and fever were present when the pain in the womb was most severe, and she was obliged to keep her bed. There was an amelioration of the symptoms after the placenta was removed, but she could not leave her bed for five weeks, became exceedingly weak, and the whole time suffered from a whitish-yellow discharge. Two or three days after she left her bed the right leg began to swell, and the abdomen became as large as at the seventh month of pregnancy.

On admission to the hospital there was no great abdominal distension, but great tenderness over the hypogastrium, and the right leg was slightly œdematous. The patient was

feeble and anæmic, and suffered from a copious, purulent, vaginal discharge.

Examined by the vagina, the whole uterus was found enlarged and tender, and fixed on its posterior aspect to the walls of the pelvis by inflammatory exudation. The inflammatory exudation had the form of an irregular, hardened tumour, lying behind the uterus, which was quite immoveable and devoid of fluctuation. The labia uteri were swollen and pouting, and a sanious, purulent discharge oozed from the os uteri.

Through the influence of rest, iodide of iron taken internally, and a liberal diet, the patient gradually improved, and after some weeks was discharged convalescent.

In other instances I have observed considerable swelling of one or other of the lower extremities, accompanied by tenderness over the hypogastric region, following retention of the placenta after abortion.

Case 3.—In a poor woman, who was a dispensary patient, rigors and fever came on eight days after a fœtus of three months was aborted, and a severe form of phlegmasia dolens was developed in the right leg. It was ascertained that the membranes had not been thrown off at the time of the accident, and that she had suffered from a putrid discharge during the interval. She had not applied for medical aid until the inflammatory attack came on, and the os uteri was then closed, so that the finger could not be introduced into the uterine cavity. A fetid, dark discharge, with putrid débris, continued to pour from the vagina for some days after this. This patient was relieved by injections and tonic medicines, and eventually recovered, but remained feeble and unfit for work for some months afterwards.

The most serious results following retention of the placenta, and those which have chiefly attracted the attention of obstetric writers, are traced to the direct absorption of the decomposing materials contained in the cavity of the

uterus. It has seemed to me that few patients exposed to this accident, and who have been affected with a fetid vaginal discharge, altogether escape the constitutional effects of putrid absorption. In many cases, no doubt, the symptoms are slight and trivial, amounting to no more than feverishness, loss of appetite, and a general condition of asthenia; but evidence is not wanting to prove that morbid phenomena may be induced of a much more serious character, and that even death may be the result. M. Cazeaux recorded the history of a lady, thirty-five years of age, who, six days after the first symptoms of miscarriage, had fœtid lochia, and was seized with a violent chill, which lasted for an hour. "From that moment," says M. Cazeaux, "all the phenomena of absorption were manifested. I immediately administered forty grains of ergot, but without effect, for nothing came away; and notwithstanding the enlightened efforts of MM. Chomel and Moreau, who were several times in consultation, this unfortunate lady died on the tenth day after the appearance of the first symptoms. At the post-mortem examination we found the uterine tissue softened, and its cavity filled by the putrefied and still adherent placenta, which we could not separate without tearing."

The following notes of a case which proceeded well-nigh to a fatal termination are abridged from an account written by a lady who was recently under my care, and who was herself the subject of the attack described.

Case 4.—Two days after returning from a visit to the seaside she was seized with violent flooding, being three or four months pregnant. The medical man who was summoned said nothing could be done to stop the miscarriage, as part of it had already come away. He gave strict injunctions that everything passed should be kept for his inspection, as he expected yet some substance to be expelled. No further substance was, however, passed, and it was concluded the remainder must have escaped unobserved. In three or four days the patient was allowed to leave her bed, and

although not well, went to Scotland about three weeks afterwards. When she had been in Scotland ten days a profuse discharge of dark blood took place from the uterus, accompanied with a sharp attack of diarrhœa. These subsided for a short time, and then the most profuse flooding occurred, large clots passing per vaginam, and alternating with a discharge of most offensive matter. Some tenderness was present over the abdomen, and the most uncontrollable vomiting occurred, which resisted all treatment. The matters vomited assumed at length a dark-brown colour, and between the effects of depression and the opiates administered to allay the symptoms she was at this time for the most part insensible. Her life was in such extreme danger that Professor Simpson was telegraphed for to Edinburgh, and she learned subsequently that the vomiting had at last been apparently allayed by a mixture of lemon juice and lime water; that she had been supported by food and stimulants thrown into the bowel, and that it had been necessary to produce a severe blister in the situation of each groin, which afterwards left deep scars. Recovery took place very slowly after this attack, and when I was called to see her in London, three months after, she had not entirely regained her strength.

Similar unfortunate cases have probably been met with by many obstetrical practitioners, and the blood poisoning arising from putrid absorption under the circumstances alluded to is spoken of in many works on midwifery. One of the deleterious results of long retention of the placenta, which has not been dwelt upon by obstetric authors, is the morbid persistence of atony and enlargement of the uterus for a long period afterwards. A form of hypertrophy of the uterus, which remains as the result of imperfect recovery from parturition or miscarriage, has been described by the late Dr. Montgomery, of Dublin, and by Dr. Simpson, of Edinburgh. The latter has designated it "sub-involution of the uterus," and has especially remarked its frequency in those puerperal patients whose recovery has

been retarded by any febrile or inflammatory attack. Dr. Montgomery believed the morbid condition to be associated more commonly with previous abortion than delivery at the full time. In cases where the placenta is not expelled after an abortion it may therefore be said that a double proclivity exists to sub-involution of the uterus, inasmuch as pregnancy is terminated while as yet the gravid uterus is but partially developed, and it contracts imperfectly afterwards; and, besides this, the retained placenta, by becoming putrid, probably leads to some febrile or inflammatory condition which injures the uterine tissue and interferes with its physiological involution. In addition, it may be stated that the loss of blood which accompanies the repeated and ineffectual efforts of the uterus to expels its contents, directly favours this form of uterine relaxation.

I have quite recently seen a marked example of hypertrophy and relaxation of the uterus referable to this cause.

Case 5.—A middle-aged lady miscarried, apparently as the result of accident, nearly five years ago. The placenta did not immediately follow, and it was considered advisable by her medical attendant to leave the expulsion of the placenta to nature rather than incur the danger of its direct removal. Some days elapsed before it was expelled, and in the mean time the patient had lost a considerable quantity of blood, alternating with a disagreeable, dark discharge from the vagina. Since the abortion she had menstruated regularly, but too profusely, and had never recovered her health. She had been under the care of a medical friend who kindly sent me the history of the case and an account of the treatment which had been adopted. At the time of my attendance she was very feeble, and greatly inconvenienced by weight and discomfort in the pelvis. A sensation of bearing-down distressed her much, and prevented her walking any but short distances. When examined by the vagina, the uterus was found much enlarged and displaced. The fundus uteri was so retroflexed that it formed a tumour between the vagina and rectum, reaching as low as the os uteri. The

uterus, indeed, was almost completely doubled on itself. The os uteri was widely dilated, and formed a transverse fissure thrown forward under the pelvis. The uterine cavity admitted the sound fully six inches, and the womb could not be replaced at the time without more force than I thought justifiable. The patient had not since been pregnant.

There is yet another result which may follow the imperfect removal of the secundines, and if less formidable than some of those already described, it deserves a passing notice. The placenta and fœtal envelopes, without becoming putrid, may maintain a vascular connexion with the uterus, and grow into one of the forms of *mole*. These, when thrown off later, are seldom expelled without a considerable loss of blood, the effects of which, added to those of the hæmorrhage at the earlier period, may greatly undermine the strength of a patient.

The entire absorption of the placenta, without the supervention of any serious symptoms or the escape of any débris from the uterus, is liable to so many sources of fallacy that, although admitted by authorities so high as Naegele and Osiander, it cannot be said to be fully established, and ought not, I believe, to be calculated among the probable happy results which may follow its retention in the uterine cavity.

Having thus noticed the various accidents which may arise when the placenta and membranes are retained after abortion, it remains to inquire what means are at the disposal of the practitioner for preventing and obviating the deletrious consequences, and to endeavour to determine the practicability and respective value of the several plans of treatment which have been recommended for this purpose.

I have already shown that there is scarcely any difference of opinion among authorities as to the desirability of favouring the separation and expulsion of the placenta when it remains entirely included in the uterine cavity, and that nearly all agree in considering the patient's health insecure until

evacuation has taken place. As to the means to be adopted for promoting this end, opinions widely differ.

One is content with a method entirely expectant, keeping the patient in the horizontal position, and controlling hæmorrhage and other symptoms by appropriate medicines. Others regarding this insufficient, suggest the use of various means to promote contraction of the uterus and the expulsion of its contents. The administration of ergot, borax, Indian-hemp, &c., have been recommended for this purpose, and ergot has been especially relied upon by some practitioners. The effect of any of these medicines is, however, avowedly uncertain, and most authors speak doubtfully of their efficiency for such purpose as that under consideration. In my hands its effects have by no means been such as to lead me to place any confidence in its effects. I saw a case lately in consultation with Mr. Squire, of Orchard Street, in which the expulsion of the secundines followed the administration of ergot after a short interval, and I have seen the same on two or three other occasions, but I have had no certainty that the ergot was concerned in the expulsion, and in the larger number of instances, I have had to treat, it has entirely failed. Partial and sometimes painful uterine contractions followed its administration, but commonly it had the effect of shutting up the os uteri the more closely, without producing the desired result.

My experience in the use of galvanism as an uterine excitant in these cases has been too limited to enable me to form any conclusive opinion as to its value, but what I have seen does not encourage me to place any great reliance upon it.

M. Levret recommended the use of warm water injections, but little assistance can be rendered by any form of injection when the placenta is adherent.

As to the employment of any instruments, such as the abortion crotchet of Dr. Dewees, or the abortion forceps, in cases where the placenta is entirely in utero, I quite agree with Dr. Churchill that they are unsafe and inefficient. As any instrument of this kind must be pushed beyond the guidance and protection of the finger,

the operator cannot be certain of seizing the placenta at all; and he may seriously injure the uterus; while it is obvious that if he be fortunate enough to grasp the placenta in this way a fragment only may be removed, and he has no means of knowing when the uterus is properly emptied.

The means mentioned being inadequate to the safe removal of the secundines, it becomes necessary to determine whether the introduction of the hand or part of the hand into the uterus is practicable in the early months of gestation, and if so, whether as stated by some authors it is a proceeding so fraught with danger as only to be justifiable when uncontrolable hæmorrhage is present. It is on these points that I am anxious to elicit the opinions of experienced Fellows of the Society.

My own conviction is, that not only in most instances is it practicable to introduce one or more fingers into the uterus before the sixth month of pregnancy, but that when the chorion or placenta is retained, a manual operation is the only safe and satisfactory way of emptying the uterus, and that it should not be omitted, when sufficient time has elasped to render it probably that nature is unable to effect their expulsion. I believe that the danger of doing so has been greatly exaggerated. I have now removed the membranes and placenta with the hand when retained after abortion, between the second and the sixth month, in a considerable number of cases, and my experience quite coincides with that of Dr. Tyler Smith's, for I have never seen any ill effects arise from the manipulation.

The result of a somewhat extended observation of these cases has forced upon me the belief that unless the practitioner's hand be large, or the passages very contracted, more risk is incurred by the long retention of the placenta, than by its timely removal, and I should not even hesitate to remove the chorion in the second month, before the placenta is properly constructed, if any urgent symptoms were present.

I would not be understood as recommending rash and violent attempts to empty the uterus without regard to consequences. Rough manipulation by which the passages are

injured, may be fatal to the patient. It is of course very desirable that the removal should be accomplished with all possible gentleness, and that the practitioner's fingers should be at least so well trained that they are likely to make no awkward mistakes as to the relation of parts. In scarcely any case can it be necesaary to introduce more of the hand into the uterus than the first two fingers. One may occasionally answer the purpose, but it works at great disadvantage alone, both in separating and extracting the placenta. The two fingers together constitute the best form of forceps for seizing what it is intended to withdraw, and are the most serviceable in all respects.

In proceeding to remove the chorion or placenta, (in all cases where the vagina is not very capacious), I have usually first placed the patient under chloroform, which prevents all resistance, and tends to relax the vagina and uterus. Then while she lies upon her back with the thighs flexed on the abdomen, I have introduced one hand into the vagina, the other hand being placed over the fundus uteri externally, to steady and depress it. If the os uteri was closed, it was gradually dilated by passing first the fore-finger into the orifice, and then the second, with as little force as possible. With time and caution, the os uteri gives way to gentle pressure, and the introduction of the finger is in most cases not difficult. When the placenta is reached, it is separated in the ordinary way, and pushed downwards towards the palm of the hand, until it is partially or wholly beyond the os uteri. It is important, certainly to ascertain that the placenta and membranes are entirely loosened from their attachments, and quite moveable in the uterine cavity before the retraction of the hand, so that a second introduction of the fingers is not needed.

Bearing Dr. Blundell's recommendation in mind, that the operator's hand should be as small as possible, I have sometimes introduced the left hand, which is narrower and more compressible than the right, but in my case at least, it is not so serviceable, and more easily fatigued.

The time which ought to be allowed to elapse after the

escape of the fœtus before an attempt is made to extract the secundines, is a desirable point to determine. They should certainly be removed before putrefaction has set in, and their extraction may be expected to be easier, if the attempt be made before the os uteri has become so contracted as to render the introduction of the fingers difficult. The contraction of the os takes place after some time has elapsed, much as it does after expulsion of a fœtus at the full period, but more slowly and imperfectly. The time fixed for the removal of the placenta by the introduction of the hand, after labour at the full time, when nature is inadequate to its expulsion, is usually about an hour and a half, varying somewhat according to the condition of the patient. In the early months, the time to wait is more difficult to determine, but as the uterus contracts more slowly, a longer time should probably be allowed. I am inclined to suggest that perhaps six hours may be fixed as an approximative limit, and that if the membranes or placenta are not expelled within that time, their spontaneous expulsion may be regarded as doubtful, and their extraction resorted to. If hæmorrhage occurs to any extent during the interval, their removal should be effected earlier.

I have repeatedly succeeded, however, in removing the placenta by the hand from the interior of the uterus, after the lapse of a much longer period than six hours, and in no case has any harm resulted to the patient.

The following notes of cases are interesting, both on account of the length of time intervening between the birth of the fœtus and the removal of the secundines, and because in two of them is shewn in strong contrast, the advantage of early removal of the placenta, and the dangers attending its long retention, in the same patients.

Case 6.—In September, 1859, the house-surgeon of the St. Marylebone Infirmary sent me the following note:—"Dear Sir—Just having admitted a patient who was confined out of doors yesterday morning, and who has the placenta retained, and I hear has had a good deal of force

applied in the attempt to remove it, I shall feel obliged if you will call as early as convenient.

Believe me,
Yours truly,
H. T. Smith.

The pregnancy had been one of five months; there had been little or no hæmorrhage. The uterus was large, the os contracted, and no placenta to be felt through it. The hand was carefully introduced as I have previously described, and the placenta which was everywhere adherent, was cautiously peeled off. Some time was occupied in the operation, but it was eventually completed, and the patient recovered without a bad symptom.

Case 7.—In March, 1858, Mr. Spencer Wells asked my advice concerning a lady whose case did not come within his department of practice, but who having aborted a fœtus, and having the placenta retained, was unwilling to submit to any examination or to see any obstetrical practitioner. The fœtus was shown to me, and appeared to be of about three months' growth. Under the circumstances, I recommended the administration of ergot, and that the patient should be kept in the horizontal position, everything that escaped from the vagina being carefully inspected. The placenta, however, was not thrown off, and although there was very little discharge for two months after, the patient suffered much in her general health. In the two subsequent months a most offensive discharge, with occasional hæmorrhage, took place from the vagina. The general health was now greatly disturbed. The patient's mind became much deranged, and she was hypochondriac to a great degree. Besides these, she had severe pains in the joints, apparently of a rheumatic character, and her condition became a source of great anxiety to her friends. The late Dr. Rigby who saw the patient repeatedly at this time, said she was suffering from uterine rheumatism. At length, in July, four months after abortion, a large piece of placenta was expelled from the uterus, and health speedily returned.

In June, 1859, I was summoned hurriedly to see the same lady at her residence in the country. On arriving, I learned that the same thing had happened as on the former occasion. The fœtus had escaped without the placenta, four days before, and hæmorrhage had been going on for the last two days, accompanied by fœtid discharge. The flooding had increased so much during the last few hours, that the patient was quite collapsed, and her life endangered. The os uteri was slightly dilated, but the placenta could not be felt. Chloroform was at once administered, and I removed the placenta by the introduction of two fingers into the uterus, the rest of the hand being in the vagina. The hæmorrhage at once ceased, and the patient made a speedy and perfect recovery. I have since attended the same lady in a confinement at the full time. There was some hæmorrhage from imperfect contraction of the uterus, but the case terminated favorably.

Case 8.—I saw in consultation some distance out of town. There was no distinct evidence of the fœtus having escaped, although much blood had been lost, and some shreds of decidua had been passed. I therefore recommended that no manual interference should be resorted to, unless hæmorrhage recurred, and prescribed some general treatment for preventing hæmorrhage. I learned subsequently, that some hours after my departure, hæmorrhage reappeared to such an extent, that it became necessary to empty the uterus, by the hand. The placenta *only* was found in the uterine cavity, and the embryo must therefore have escaped during the early flooding. Some months after this occurrence, I was summoned to the same patient, who believed herself pregnant again, and four months advanced. Some hours before my arrival, she had been seized with flooding, followed by the escape of the fœtus, which was wrapped in the unruptured amnion. The placenta was yet in the uterus, and no part of it could be felt in the os uteri. The hæmorrhage was very profuse, and came on in gushes. I had this time no hesitation in according to the patient's request, that she

should be spared the risk of further hæmorrhage by the removal of what remained. She was, therefore, placed under chloroform, the os uteri was slowly dilated with the first finger, and the placenta extracted without injury. The patient made a good recovery.

The proposal to employ one or more fingers to empty the uterus, rather than employ instruments in threatening cases of abortion, is not new. A Mr. Wainwright proposed this plan many years ago in one of the journals, and his paper is alluded to in Dr. Churchill's 'Midwifery.' It may possibly be objected to this mode of procedure, that if a twin conception had occurred, and one fœtus only aborted, as sometimes happens, the second embryo, which might reach maturity, will necessarily be destroyed. Such instances are, however, rare, and the possibility of such existing, can scarcely be weighed against the risk of hæmorrhage to the mother, or the retention of a putrid placenta in the uterus.

Many cases must necessarily occur where the fœtus escapes without being observed, and others where the embryo having been discovered, an uncertainty exists as to the expulsion of the placenta. To these equivocal cases no rule can apply, and each must be treated according to the judgement of the practitioner.

In those instances which come under the care of the practitioner some days or weeks after the fœtus is expelled, and in which the previous history, the size of the uterus, and the putrescent nature of the discharge leave no doubt that the placenta or some portion of it remains in the uterine cavity, an effort should I think be made to extract it, if no inflammation has yet been lighted up in the uterus or adjacent tissues. Perhaps advantage may be taken of one of the attacks of recurring hæmorrhage, so commonly present, and during which the passages are more dilatable, to remove the mass; or, the introduction of a series of sponge tents may be safely used, with the double purpose of staying hæmorrhage and dilating the os uteri, before the introduction

of the finger. But whenever inflammation has supervened and irritative fever has become developed, the introduction of sponge tents or of the hand, are, I believe, earnestly to be deprecated, and I have never deemed it desirable to do more than palliate the symptoms by anti-septic vaginal injections, febrifuge medicines, and the administration internally, whenever it was not contra-indicated, of the tincture of muriate of iron.

Mr. Robins related a case in which there was much flooding, owing to retained placenta, after abortion at the third month. Mr. Robins only got away a part of the placenta, the rest being left behind. This was two months ago, and the portion has not yet passed, yet there is no flooding nor symptom of putrefaction.

Dr. Hall Davis observed that but little could be added to make Dr. Priestley's paper more complete than it was. In the early part of his practice he (Dr. Davis) was in the habit, in cases of retained placenta, of trusting partly to nature, and this failing, to injections of warm water into the uterus to wash away putrescent matter. Subsequently he became convinced that it is better to remove the placenta manually, and so effectually to prevent either flooding or blood poisoning. Dr. Davis stated that he had also seen cases where the part of the placenta left in utero had become changed into a mole, and so produced great distress, with numerous attacks of hæmorrhage. He thought that putrid absorption from retained placenta occurred most frequently where there was hæmorrhage. As to the absorption of the placenta, he had never met with a case of it in his own practice, and he thought that the possibility of its happening ought to have no effect upon our treatment of these cases. In proof of the correctness of Dr. Priestley's views, Dr. Hall Davis narrated the particulars of two cases, about which he had been consulted, and in which death resulted from blood poisoning due to retention of the placenta.

Mr. Peter Marshall said that at one time he was a sceptic as to the absorption of the ovum; but that he had recently seen a case which had convinced him that this did sometimes happen. The ovum, in this instance, was felt by two or three experienced practitioners, protruding at the os uteri; yet it did not come away, and the patient recovered favorably. Mr. Marshall said he had also noticed that the rigors which occurred in cases of putrid absorption from retained placenta were often of a periodic character. He congratulated the author upon his valuable paper.

Dr. Tyler Smith said that, in rare cases, the placenta was no doubt absorbed after abortion. But the chance of such an

occurrence ought not to be allowed, as it led to hæmorrhage, and infection of the system by putrid matter. The number of instruments devised to extract the placenta showed how important the matter was in practice; but nothing yet produced was equal to the hand and finger. He had always taught that in abortions, occurring even before the formation of the placenta, the thickened decidua should be removed, if it remained and caused excessive draining, after the passage of the embryo. In the early months, the uterus was only partially developed, so that its expulsive action was comparatively feeble, and the difficulty was often increased by adhesion of the decidua and after-birth from disease. In later abortions, he always removed the placenta as soon as its retention produced mischief, it was seldom necessary to pass more than one finger into the uterus to detach the retained mass. In some cases, the whole hand required to be passed into the vagina; in others, the uterus was sufficiently low to admit of the passing of the finger without this. Chloroform was often of great value in promoting dilatation of the ostium vaginæ and os uteri, particularly in cases where the retention had lasted several weeks, or even months. He had not seen any mischief follow the removal, but the contrary. The conditions were that the hand should be clean, and the proceeding without violence. He might mention that in cases of flooding after delivery at the full term, when the placenta had been expelled, he had frequently passed the hand into the uterus to remove portions of membrane which were apt to separate from the placenta and remain in the uterus, or hang from the os. Many of the worst cases of flooding met with in practice were, he believed, of this kind, and to clear out the uterus was the only effectual way of stopping the loss of blood.

Dr. Graily Hewitt felt himself called upon to say a few words on the subject before the Society. He believed that the case had been considerably overstated, and that bad effects had been set down as following the retention of the placenta in these cases of abortion, which were really by no means so commonly observed in practice as would be supposed from what had been stated. The author himself had been constrained to admit that there are few recorded cases of serious results. The cases brought before the Society by the author, as instances of bad results following retention of the placenta after abortion were some of them open to the serious objection that they did not prove what they were intended to prove. Thus a case was cited, in which the patient had aborted five years before, and in whom the placenta had not been removed for some few days afterwards; the uterus was found large, retroflexed, and admitting the sound to the extent of six inches. This case was cited as showing one of the evil effects of retention of the placenta. Where was the evidence that this condition of the uterus was produced by the reten-

tion of the placenta for a few days five years before? Other cases related were open, though not so markedly as in this instance, to objections of an analogous kind. He had no objection to the procedure recommended in certain properly selected cases; but he should consider it a most unfortunate thing if this Society gave sanction to the practice of dilating the os uteri, and effecting the removal of the placenta with more or less force in all cases where there was delay of a few hours in its expulsion. He was convinced that the effect of the expression of such an opinion would be most disastrous, and that much injury might be consequently inflicted. It was not easy to convey by pen and ink, and to all persons alike, an adequate idea of the degree of force which might be safely used. How the exercise of force in effecting dilatation of the os uteri in cases of abortion might prove injurious was shown by the case published in the 'Lancet' of last year, where the individual (uneducated it is true) ruptured the uterus and vagina in the attempt to remove the placenta in a case of abortion at the fifth month.

Dr. Tanner remarked that when he first saw the title of Dr. Priestley's paper he thought that most practitioners must now be agreed upon the treatment to adopt in cases where a portion of the placenta was retained, and therefore that to raise a question upon the subject was unnecessary. The discussion, however, which had just taken place proved that the author had not acted unwisely in bringing the matter forward. With regard to his own views, he (Dr. Tanner) might say that they were quite in accordance with those of Dr. Priestley; and, indeed, he had taken much pains to enforce these same opinions in his recent work on the Diseases of Pregnancy. He believed that although after abortion a portion of the placenta or membranes *might* be left in the uterus and no ill consequences ensue, yet such a fortunate result was exceptional and could not be depended upon. There were two great sources of danger in these cases,—namely, flooding and blood-poisoning. If the portion of placenta remained adherent to the uterine walls, it acted like a polypus and produced flooding, which could only be permanently checked by the removal of the foreign body. If the substance became detached and was not expelled, it putrefied; and then there was the fear of purulent absorption, uterine phlebitis, and so on. Dr. Tanner then referred to the report of a case, by Mr. Humphreys of Shrewsbury, in the 'British Medical Journal' for December 1858, in which the retention of a piece of placenta, only the size of a shilling had caused fatal flooding; while he also mentioned a somewhat similar instance about which he had been lately consulted, but where recovery occurred after the expulsion of a mass of after-birth the size of a walnut. He alluded, in conclusion, to the observations of Mr. Marshall as to the absorption of the entire ovum, and

stated that he had never yet witnessed anything which would lead him to believe in the possibility of such an occurrence. He thought that it was sometimes very difficult, when a mass was felt at the os uteri, to say whether it was an ovum or a clot of blood; but even allowing the substance in Mr. Marshall's case to have been an ovum, it might have subsequently passed away without the patient's knowledge.

Dr. Priestley, in reply, said that the observations of Mr. Marshall, on the periodic character of the rigors in cases of putrid absorption from retained placenta, were interesting, inasmuch as they showed that some analogy existed to instances of blood-poisoning from other causes. Dr. Davis's remarks as to the greater proclivity of patients to putrid absorption who suffered from hæmorrhage concurrent with putrid discharge, were also deserving of notice. He (Dr. Priestley) confessed his surprise that Dr. Hewitt, who had read the paper to the Society, should have so far misunderstood it as to suppose it recommended the introduction of the hand into the vagina when the placenta was simply lying in the os uteri, and easily removable by other means. The paper was entirely devoted to those embarrassing cases in which the placenta and membranes were entirely included within the uterine cavity, and in which the efforts of the uterus were insufficient for their expulsion. Nothing Dr. Hewitt had advanced had shown that the secundines could be left in the uterus for a prolonged period after abortion without risk to the patient. His objections did not affect the question at issue. Nor could the fears he expressed as to the safety of manual extraction be weighed against the results of practice which had been elicited in the discussion. One of the principal objects of the paper of the evening was to evoke the opinions of men who had large experience on an important point of every-day practice, and he (the author) had been gratified by finding that the weight of opinion expressed in discussion was decidedly in favour of the proposals he had submitted for the approval of the Society.

June 5th, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—47 Fellows and 5 visitors.

The following gentlemen were duly elected Fellows of the Society:—Thomas Leigh Blundell, M.D., St. Leonards-on-Sea; W. J. Church, F.R.C.S., Bath; James Lumley Earle, M.D., Birmingham General Lying-in Hospital; George E. Horton, Esq., Dudley.

CASE OF SMALL-POX IN TWIN FŒTUSES.

By Henry Madge, M.D.

The following case of small-pox in the fœtus occurred in the practice of Dr. Graves, of the Edgware Road:—Mrs. C—, æt. 24, whilst attending her husband, ill with a severe attack of discrete small-pox, in November, 1860, was seized with violent headache, heat of skin, thirst, loss of appetite; in short, with the premonitory fever of small-pox, followed in a few days by the appearance of a few papulæ on the face and body, altogether numbering about twenty. The fever subsided, and the eruption advanced to the vesicular stage, but no further, and in a few days the patient was quite well, not having, throughout the attack, been obliged to keep her bed for even a day. She was at this time

nearly four months advanced in pregnancy, but she soon regained her usual health, and nothing more was heard of her until the beginning of the February following, when she was delivered prematurely of twins. The first fœtus expelled (a male), was the smaller of the two; the other (a female), born after an interval of about fifteen minutes, came away partially enveloped in its membranes.

There was only one placenta, or rather two placentæ united in the usual way, and coming away in one mass. The second fœtus, from its greater size and more advanced development of some of its parts, seemed at least a month older (speaking of uterine life) than the first. It was also extensively marked with perfect small-pox pustules—the pustules were perfect in form—presenting the central depression, but some of them much smaller than others; the largest were situated on the chest, the lower part of the back, the right arm, and the inside of the left thigh. Of the pustules, small and large together, I have counted sixty-five. (Unfortunately the methylated spirit in which the fœtuses have been kept for the last three or four months has not proved a good preservative fluid, the cuticle has in many places peeled off, and the tissues are shrunken; the eruption is now, therefore, not seen to advantage.) The smaller fœtus had only six pustules on its body, one on the chest, one between the shoulders, two in lower part of the back, and two in the scalp; they were small, but perfect in form. From the causes just stated, they are not now easily seen. The twins were born dead, but had evidently not been dead long; indeed, the mother stated that she felt the movements of one or both the day before the delivery.

Remarks.—About six years ago I collected and published remarks and observations on small-pox in the fœtus; the following abstract may be read with interest in connexion with the foregoing case:—"Dr. Montgomery has stated that when small-pox in the fœtus follows that of the parent, it requires some time to show itself, as if the infection had taken the same time to operate as it does in passing between

two persons." In the 'American Journal of the Medical Sciences' for 1853, there is a case related in which vaccination of the mother during pregnancy seemed to have extended its protecting influence to the child. After birth vaccination was repeatedly tried without success. I have recently become acquainted with a case in which the mother had confluent small-pox, with severe pneumonia at the seventh month. She recovered, went to the full time, and was delivered of a female child. The child was vaccinated. On the fourth day there was considerable irritation at the seat of puncture, but it gradually died away. Subsequent trials appeared to show that the child was protected. Dr. Jenner has placed several cases on record where the fœtuses have been attacked with small-pox whilst the mothers escaped. In cases of twins, one child may be covered with the eruption, the other being perfectly free. Ebel has recorded a case in which a woman, fifteen days before her confinement, experienced considerable uneasiness, and felt the child struggling violently in the womb. When it came into the world it was covered with small-pox pustules in the third stage. It is generally in those cases where the parents have been vaccinated, or otherwise protected, that they send into the world infants with small-pox pustules, without themselves having felt any symptoms of the disease. Such was the case with the mother of the great obstetric writer Mauriceau. She had been in attendance on her eldest son, ill with small-pox; he died, and on the following day she was delivered of Mauriceau, who at the moment of birth had several small-pox pustules on different parts of his body.

In connexion with Dr. Graves's case it should be stated that the mother had been vaccinated but the father had not. I think the details of this case, with the observations appended to it, prove—

1st. The independent liability of the fœtus to disease, as shown by the different type of small-pox it may experience to that experienced by the mother, and in cases of twins in utero affected with eruptive disease, the much greater deve-

lopment of the disease in one than in the other; and further, the possibility of only one being affected.

2nd. The nature, or rather the extent of the protective power of vaccination in adults.

3rd. The necessity or advisability of recommending all pregnant women, during epidemics of small-pox, or when residing in or near a district where the disease is prevalent, to be vaccinated or revaccinated, so as to extend the protective influence of vaccination to the child in utero.

Dr. Gibb related the particulars of some analogous cases which he had observed.

CASE OF IDIOPATHIC PERICARDITIS IN A CHILD TWO YEARS AND A HALF OLD.

By Henry Madge, M.D., &c.

Dr. Madge exhibited the heart of a child two years and a half old, who died rather suddenly, and without apparently suffering any pain. The pericardium was distended with about four ounces of yellowish serum containing flakes of lymph, the heart being imbedded in a dense layer of the inflammatory product. There was no history of any previous illness; the child was playing about the day before its death. It appears to be an instance of what Dr. West considers to be a very rare affection in children, "idiopathic pericarditis."

A CASE OF HYDATID MOLE EXPELLED FROM THE UTERUS IMMEDIATELY AFTER A LIVING FŒTUS AND ITS PLACENTA, AT ABOUT SIX MONTHS' GESTATION; THE HYDATID GROWTH BEING THE DEGENERATED OVUM OF A TWIN CONCEPTION.

By J. Hall Davis, M.D.,

PHYSICIAN TO THE ROYAL MATERNITY CHARITY; PHYSICIAN-ACCOUCHEUR TO ST. PANCRAS INFIRMARY, ETC.

The subject of this case was a patient in my district of the Royal Maternity Charity; her age, thirty-three. She had three children at full term; had once miscarried at two months; was, according to her calculation, six months advanced in pregnancy, when labour was, in consequence of exhausting hæmorrhage, induced artificially.

I saw her first on account of flooding, on the 26th of April. I ordered strict quietude and appropriate medicines, hoping thereby to save the gestation.

On the 8th of May, however, the hæmorrhage having recurred two or three times, and much weakened my patient, I urged and performed the induction of labour. This I effected by the injection of tepid water into the cavity of the uterus, using Coxeter's ordinary double-action enema syringe; the os uteri readily admitting the end of the gum elastic tube, and allowing the water to pass out freely again by its side. About three pints of water were thus expended, the water returning slightly blood-tinged. Pain supervened at 8 p.m., and the fœtus was expelled at 11 p.m. The placenta was entire, appeared healthy, quickly followed the child; and subsequently, but quite distinctly from the placenta, this mass of hydatids was thrown off.

The fœtus survived only a few minutes. On account of

pyrexia and offensive lochia, probably from some small portion of decidua still remaining connected with the uterus, I found it advisable to inject and cleanse the uterine cavity out with warm water on the three following days, upon which the above symptoms ceased, and the patient, with the aid of tonics and good nourishment, recovered in the ordinary period.

With regard more especially to this hydatid growth, about a pint and a half in bulk, I may observe that it presents the racemose arrangement of vesicles, of hydatids as they are not quite correctly called, since they are not true hydatids, acephalocysts, cysts within cysts with their hooklets, but simply pellucid vesicles pediculated to the chorion membrane and to one another. Upon some of the vesicles on this and other specimens, buddings for new villi and vesicles are to be seen. The shapes of the vesicles are oval and pyriform, and their size varies from that of a millet seed to that of a currant and a grape, and to that of a gooseberry in other specimens; they are white or red, according as they may have been deprived or not of their contained blood.

Those so-called hydatids are the result of a morbid development or degeneration of the villi of the chorion; all eminent authorities for many years have agreed in that; but as to the minute changes which in the villi precede the formation of these vesicles, there is a difference of opinion.

For while Dr. Mettenheimer, and our own countryman Mr. Paget, believe that the vesicles, either in the case of the secondary, tertiary, and subsequent vesicles, or in those immediately pediculated to the chorion membrane, are equally developed from cells in the original villi, and in subsequent vegetations of villi on the primary and secondary vesicles, Gierse and Dr. Graily Hewitt, on the other hand, assign no place in the development of the vesicles to a cell-formation, but attribute the formation of the vesicles to hypertrophy of the villi and their distension by œdema; yet Dr. Graily Hewitt admits, at the same time, that he

observes the cells in the villi do undergo some enlargement.

For my own part, after some inquiry into these structures, and reasoning also from analogy of other cyst-formations, I am disposed to adopt the cell theory as a rational mode of explaining these developments. At the same time, I must confess that Dr. Hewitt seems to me to have laid his views before us most impartially in our 'Transactions.' I should not omit to notice, that he adds to Gierse's view a further condition, that the fœtus, ere this hydatidiform development commences, first dies.

This is very probable, although it may be difficult to prove that incipient degeneration of some kind does not lead to its death. At all events, the fœtus being destroyed, and, as I believe very early, and a placenta not being required, we can understand how rapidly the chorion villi might then become evolved into a lower form of development—that of uterine hydatids.

In most of the specimens of these hydatids the fœtus is either not to be found, or its length, as in the instances seen by Gierse, Meckel, Gregorini, Otto, Cruveilhier, and others, did not exceed one inch, excepting in a specimen given by Dr. Granville, in his 'Illustrations of Abortion,' where the fœtus had reached a length of one inch and three quarters.

I conclude in this case, from this hydatid growth having no connection with the placenta or membranes of this fœtus, and from the history of other cases of hydatids in single conceptions where no placenta has been found, that this hydatid mass was developed from the chorion of a second ovum perfectly distinct from this ovum in which the fœtus is present.

This example of hydatid mole is interesting as being connected with a twin conception; the one ovum advancing naturally, the other suffering this morbid change; and the more interesting because apparently rare, no instance of the kind being recorded in the 'Transactions' of our medical societies. In the German 'Ephemerides,' however, Dr.

Davis finds two somewhat similar cases by Bautzmann and Lanzoni; and he is of opinion that a case of hydatids connected to a normal placenta, and expelled immediately after a small child, reported by Mr. Hunter, of Margate, in the 'Lancet,' 1846, vol. i, p. 430, admits of a similar interpretation. In that instance, however, the placenta, had both fœtuses been developed, would have been in one mass. In the above case they would have been connected to different parts of the uterus.

ON UNUSUAL ELONGATION OF THE FŒTAL HEAD, AS A CAUSE OF DIFFICULTY IN THE APPLICATION OF THE ORDINARY OBSTETRIC FORCEPS; WITH DESCRIPTION OF A MODIFIED FORM OF INSTRUMENT TO BE USED IN SUCH CASES.

By Graily Hewitt, M.D., M.R.C.P.,
PHYSICIAN TO THE BRITISH LYING-IN HOSPITAL; LECTURER ON MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN AT ST. MARY'S HOSPITAL MEDICAL SCHOOL.

It is superfluous here, and in presence of this audience, to dwell at any length on the importance of a perfect knowledge of the applications and uses of the forceps in obstetric practice. The necessity for recognising, and, if possible, of removing difficulties which are liable to present themselves in the application of the instrument, will at once be admitted.

It is the object of this communication, in the first place, to show that a certain difficulty, which, so far as I can ascertain, has not as yet been recognised by obstetric authorities, is liable to arise in the application of the ordinary forceps, used in British midwifery, and in the second place, to suggest the use of an instrument suitable for dealing with such exceptional cases.

The difficulty in question occurs in cases where the head, having been forced through unusually narrow or unyielding passages, is thereby made to assume a very elongated shape. In such cases the application of the ordinary (British) form of forceps to the head so elongated is difficult, because there is not the necessary adaptation of the form of the instrument to that of the head itself.

I cannot convey my meaning better than by narrating the particulars of a case which recently came under my observation, and which was the means of directing my attention to the subject of this communication.

The circumstances of the case were these: the patient was a primipara, aged thirty. After the os uteri had been fully dilated for upwards of eight hours, I determined to use the forceps; the circumstances which induced me to come to this determination being as follows: the vagina was somewhat narrow, the liquor amnii had escaped, the pains were most unusually severe as regarded their effect on the patient. Latterly chloroform had been administered, and with the result of relieving the patient of her suffering, but under its use the progress of the head, before slow, had become slower; and it appeared that if the use of the chloroform were continued, the termination of the labour would be almost indefinitely postponed, while without it the patient must certainly suffer to a degree which was most painful even to witness. The preferable course evidently was to employ the forceps, and thus to terminate the labour while the patient was under the influence of chloroform. The head was, it should be remarked, low down, though not yet distending the perinæum. While under chloroform, therefore, and with every possible advantage, apparently at least, I proceeded to use the ordinary short forceps. The head lay in the first position, and the upper blade was introduced first, the patient in the usual position. No difficulty was experienced in passing the blade of the forceps inwards, and apparently to the full extent, but when so introduced the handle did not assume its proper position. As far as it was possible to ascertain, the difficulty

did not arise from the instrument having caught on the ear or the os uteri. The lower blade was next tried, the first having been withdrawn, but with no better result, and I found it in fact impossible, without stretching the vaginal walls to an unjustifiable extent, to introduce the instrument in the necessary manner. The tightness with which the head was girt by the vagina, which although moist and cool was unusually narrow, prevented a very complete and perfect exploration, with the view of ascertaining more completely wherein the difficulty lay. After five hours' further suffering the labour was terminated naturally.

When the head was born, the reason why I had failed in the attempt to apply the forceps became apparent. The head, which had become moulded by compression to the shape of the narrow parturient canal, was lengthened to an unusual extent. Half an hour after birth, and after an interval of time sufficient to allow the deformity in the shape of the head to disappear to a great degree, the occipito-frontal diameter measured five inches, and the occipito-mental diameter six inches in length. The child was a male. The actual bulk of the head, which was well ossified, did not appear to be above the average.

The head as it emerged, presented an appearance which in a certain degree must be familiar to all who have conducted labours in primiparæ, which I had frequently seen before, but which I had never had occasion to associate with difficulty in the application of the forceps, viz., contraction of the transverse and vertical diameters of the head with corresponding increase in the occipito-mental or oblique diameter.

The attempt to place the forceps on the head failed, because of the unusual length of the occipito-mental or oblique diameter, the point of the blade of the forceps not penetrating far enough. Comparison of the blades of the forceps with the head of the child, after delivery, confirmed me in this view of the case.

The reflections which a careful consideration of the facts as now narrated induced me to make, respecting the varying measurements and shape of the fœtal head during partu-

rition, in so far as they relate to the applicability of instruments, I now venture to submit to the notice of the Fellows of the Society, craving their indulgence for any shortcomings which may be evident in my manner of dealing with so important a subject.

The diameter of the fœtal head with which we are chiefly concerned in reference to the application of the forceps, is the occipito-mental, the inner surface of the blade of the forceps forming a curve, which is intended to be adapted to the curve of the side of the head between the chin and the occiput. The head of the fœtus at full term, is assumed by obstetric authorities to measure a little over five inches in this diameter, the measurements given by various writers varying, however, to the extent of one inch, the lowest estimate being four inches and a half, the highest five inches and a half.[1] The latest authority on this subject is Van Pelt. He gives the average of 646 cases as being five inches and seventeen-fortieths, nearly five inches and a half.[2] This *average* measurement is identical with that given by a very careful English observer, Dr. Ramsbotham. In the whole 646 cases, however, Van Pelt found the measurement of this diameter to be as much as—

$5\frac{13}{16}$ inches in 13 cases (8 males, 5 females).
$5\frac{14}{16}$ inches in 9 cases (4 males, 5 females).
$5\frac{15}{16}$ inches in 3 cases (2 males, 1 female).
6 inches in 3 cases (3 males).

Respecting these observations of Van Pelt's, which possess a peculiar interest in reference to the present discussion, it is stated that they were made with great care, but in all the cases the measurements were taken, not immediately

[1] Van Pelt's essay contains the following *résumé* of the measurements, given by various authors:—Churchill, 5 in.; Velpeau, 5 in.; Cazeaux, $5\frac{1}{4}$ in.; Maygrier, 5 in.; Ryan, 5 in.; Lee, ?; Ramsbotham, $5\frac{1}{2}$ in.; Moreau, 5 in.; Ashwell, $5\frac{1}{4}$ in.; Murphy, 5 in.; Baudelocque, $5\frac{1}{2}$ in.; Naegelé, 5 in.; Jacquemier, $4\frac{1}{2}$ in.; Meigs, $5\frac{1}{2}$ in. ('Amer. Journ. Med. Sc.,' Jan. 1860, p. 111.)

Dr. Tyler Smith's estimate is 5 to $5\frac{1}{4}$ inches.

[2] Loc. cit.

after delivery, but after a sufficient time had elapsed for the head to recover its ordinary shape, and consequently after the distortion or irregularity produced during the labour had to a great extent disappeared. This latter fact it is very important to remember.

The effect of the compression to which the head is subjected in long labours, with a narrow parturient canal, is, as I have already remarked, to alter its shape very materially, especially in primiparæ. The shape of the head is so changed that it resembles rather a segment of a cylinder rounded off at the two extremities, than the natural ovoid form of the head. The shape was aptly, though inelegantly, described by a friend of mine as that of a "quart-pot." As a result of this, the sides of the head, along which the blades of the forceps have to be applied, are for a certain distance but very slightly curved, almost straight, indeed. The nature of this change of shape I have endeavoured to represent in the accompanying drawing (see Plate IV). Elongation takes place as the effect of this compression in the occipito-mental diameter of the head, in the direction of the line A B in the drawing. In this capability of elongation we find a provision for the passage of the large mass of the fœtal head through narrow parturient passages; and if the head be from any cause insusceptible of this moulding and alteration, an insuperable difficulty may be thus opposed to the natural termination of the labour. The amount of the variation in the measurements of the head, during and after parturition, would be an interesting subject for observation; but at present we have no series of measurements of this kind to refer to. All will, however, admit that there is a very considerable elongation of the head in the occipito-mental diameter in many cases.

Experience has shown that the curvature and length of the blades of the forceps in use in this country are adapted to the curves presented by the sides of the fœtal head, in ordinary cases. And ordinarily it may be assumed that the differences presented in the measurements of the occipito-mental diameter of the fœtal head, in particular

cases, are not so great as to render the usual form of instrument inapplicable. The position I would take up, and the truth of which it requires, I think, no lengthened argument to demonstrate is, however, this, that if the measurement of the occipito-mental diameter exceeds a certain limit the ordinary form of forceps must be inapplicable, owing, in the first place, to the want of correspondence between the curve of the forceps and that of the head; and, in the second place, to the actual difficulty in applying the blade of the ordinary forceps under these circumstances—a difficulty which is increased by the narrow, unyielding condition of the parturient passages usually associated with the undue elongation in question.

I wish it to be particularly understood that the remarks now to be made refer to the mechanism of forceps deliveries of what are usually considered the simplest kind—those in which the head is in the pelvic cavity, the presentation normal, the head consequently *accessible* to the operator.

In determining the adaptability of different instruments to the extraction of the head from the parturient passages two things have to be considered:

Firstly, the adaptation of the curve of the blade of the forceps to the curve of the side of the head to which it has to be applied, the introduction and application of the instrument having been effected; and, secondly, the possibility of actually introducing and applying the instrument. Mechanical difficulties may, as I shall presently show, interfere with the introduction of a certain instrument, and render its application almost impossible.

1. The adaptation of the curve of the blade to the curve of the side of the head.

When the blades of the forceps have been applied to the head, they should *fit* the head, or the operator will obviously labour under a disadvantage. Now the shape of the side of the head which is most ordinarily present, as deduced from the combined results of the measurements of various authorities (previously cited), is that represented in fig. 1 of Plate V, by the curved line *a, b, c, d.* The curved line in question

would correspond with a line drawn from the chin to the occipital protuberance, and represents (of course diagrammatically) the form of the surface which the blade of the forceps touches, during the act of extraction. This is the shape of the curve with which we have to deal, then, in average cases, the occipito-mental diameter being five inches and a half, the transverse diameter (of which only the half is shown in fig. 1) three inches and a half. That is to say, in cases where the parturient canal is of the average size, and so dilatable that the head passes through the same without undergoing any considerable alteration in its shape.

Let us apply to this curve, and to this surface, the blade of the forceps most commonly used in this country, the short straight forceps having a blade of seven inches (in a straight line from handle to point). The forceps is represented in Plate V, fig. 1, *e, f, g,* applied to the curved side of the head, *a, b,* and in the position with reference to the head which is most usual, the handles slightly apart, and ready for extraction.

It is evident that there is here a mutual adaptation between the curve of the instrument and that of the side of the head, and the conditions necessary for exercising traction or other power are present. And if we suppose the operator to exercise slight compression by bringing the handles *e* and *f* into close approximation, the pliability of the head will be sufficient (ordinarily) to prevent any material interference with the adaptation of the two curves one to the other. The blades of the forceps here represented are seven inches long. Most of the English "short" forceps are shorter than this, some measuring only six inches; and as will be presently seen, my argument would be made stronger by representing the blades of the English short forceps as six or even six and a half instead of seven inches long.

In the next place, let us suppose that the head is unnaturally elongated, elongated and altered in shape in the manner previously described. If the occipito-mental measurement of such a head be taken at six inches and a half, and the transverse diameter at three inches, we shall have an ovoid to deal with, the outline of which will be represented

by the curve *a, b, c, d,* in Plate V, fig. 2. Now if we apply the same forceps (seven-inch blade) to this ovoid which was applied in the last case, it will be found that the curve of the side of the head and that of the blade of the instrument no longer correspond. In fig. 2 is represented the want of correspondence between the two curves in question. If we suppose a six-inch instrument applied to the curve in fig. 2 the curves would be still more dissimilar, and the want of correspondence would be still more striking. The further practical inconvenience of the elongated fœtal head being brought too close to the joint of the instrument under these circumstances, is practically made evident in this same illustration.

2. We have next to consider the other part of this question, not less important, perhaps even more so, than the one just discussed, viz., the difficulties likely to arise in the *actual introduction* of an instrument the curve of which is different from that of the side of the fœtal head to which it has to be applied. In practice of course this question comes first, for granted that an instrument of a certain form may be used effectually in extracting the head once it has been applied, the instrument in question is useless if its construction be such that its introduction is impossible.

And now I must request careful attention while endeavouring to render what I have to say under this head intelligible.

In the application of the blade of the forceps to the head we push the blade between the surface of the head and the surface of the parturient canal, and our object is to insert the blade so far that its distal extremity may *get over* the curve offered by the side of the head. Until the blade has been inserted as far as this nothing can be done, the blade, mechanically speaking, *does not bite.*

The blade of the forceps has to make its way between two surfaces closely applied one to the other—the hard, resisting fœtal head, and the vaginal canal. These surfaces are closely applied one to the other, but, under *ordinary* circumstances, the fingers may be readily passed

between the two, and there is consequently room for the play of any instrument which may have to be introduced. If, under ordinary circumstances, we wish to apply the forceps, the head not being distorted, we are able to accomplish the insertion of the blades *without* separating, or without a necessity for separating, the vaginal wall from the head. The instrument glides in, its curve being so adapted to that of the head that at every moment of its passage it touches, on the one side the head, on the other the vagina. If to the curve *a, b, c, d,* in fig. 1, we apply the blade of the seven-inch forceps, what takes place is this :—The point *e* of the forceps travels slowly over the curve from that part of the curve marked *c* until it arrives beyond the part of the curve marked *b*. No dilatation of the vagina, no separation of the same from the head are necessary, because of the identity of the curves of the blade and of the head, and consequently even in the event of the parturient canal being rigid and tightly applied to the head, the passage of such an instrument would, or should be under such circumstances, accomplished with ease.

The case is however very different if we attempt to introduce the same instrument (seven-inch) when the curve of the head is such as that represented in fig. 2, unless the parturient canal in which the head is engaged is so distensible as to allow of very considerable separation of the same from the head. The experiment only requires to be made to show how and why it happens that a difficulty is necessarily encountered in the attempt in question. Let the blade of the seven-inch forceps be applied to the curve *a, b, c, d,* in fig. 2, the point of the blade first touching the curve at the point *c*. Now, as the extremity of the blade is slowly made to traverse the curve towards the point *b*, it will be found impossible to avoid removing the inner surface of the blade from contact with the surface over which the extremity of the blade has already travelled. When, for instance, the extremity of the blade has arrived at about the point *b*, and we attempt to push it further, we find that in order to do this the portion of the blade opposite the point *c* must be

separated from the surface of the head at that point in the direction of the dotted line *c, h,* in order that the extremity of the blade may be kept in contact with the curved line further on. And if the instrument were in actual use, it is easy to see that in order to produce a further advance of the blade the vaginal walls must be so distensible as to allow of this separation of the blade from the head opposite the point of the curve marked *c*. To advance the blade the operator would elevate the handle (supposing him to be introducing the superior blade) of the forceps, and in so doing would separate or attempt to separate the wall of the canal from the head, in order that he might continue to preserve the extremity of the blade in close contact with the head. In dotted-out line the seven-inch forceps is depicted in this position (Plate V, fig. 2). If the operator omitted all consideration of the possibility of wounding the vagina he might push forward the blade without caring to keep the point of the blade closely applied to the head, and by so doing would perhaps be more likely to effect his object, as will be readily understood. Such a proceeding would, however, it need hardly be said, be perfectly unjustifiable, the proper introduction of the forceps involving the avoidance of force of all kinds.

Further, where the head is unusually elongated there is associated with this elongation a condition of the parturient passage more or less absolutely preventing such separation of the vagina from the head as would be implied in the passage of the instrument in the manner here described. In such cases, in fact, the whole canal is as rigid as it can well be, and the condition of things which gives rise to the elongation of the head, and which moulds it into this peculiar shape, also interferes with the introduction of an instrument of the curve and shape of instruments in ordinary use in British midwifery.

It is perhaps necessary here to remark, that in the "long forceps" of British midwifery the curved part of the blade, with which only we are here concerned, is no longer than that of the ordinary "short forceps." In the "long forceps," and in the "short forceps," the curves of the blades are alike

in length and shape, the long forceps only differing from the other in having a shank, which is virtually only an addition to the handle, placed between the curved portion of the blade and the handle proper. The argument here sustained consequently applies equally to the "long" and to the "short" forceps of British midwifery.

It has now been shown: firstly, that the ordinary British instrument is, from the size of its curve, not adapted to the curve presented by the fœtal head under certain circumstances; and secondly, that when the head has been made to assume an unusually elongated form it will be difficult, and it may be impossible, even to introduce the instrument in question.

It cannot be doubted that the difficulty I encountered in introducing the seven-inch forceps in the case which was the means of attracting my attention to this subject, was of the kind now alluded to. The vagina firmly embraced the head, and although the blade of the forceps was easily introduced for a certain distance, that distance having been attained further progress was impossible.

As a corollary from all this, it follows that an instrument having such a length of blade and such a curve as to fit it for easy introduction, will be found necessary in a certain number of cases.

I have had an instrument constructed,[1] now exhibited to the Fellows of the Society, which is adapted to the requirements of these exceptional cases, the instrument being both easily introduced and fitting *when* introduced. It only differs from the common straight forceps in use in this country in having longer blades, and in the blades themselves having a different curve. The length of the blades is eight inches instead of six and a half or seven, and the curve is an arc of a circle of fourteen inches in diameter instead of ten or eleven. The instrument when locked is fitted to inclose a larger oval than the ordinary forceps. It is represented in Plate V, fig. 3, as is readily seen, applied to the curve of an elongated head, and the adaptation of the curve of the blade

[1] The instrument exhibited was made by Mr. Coxeter, of Grafton Street East.

to that of the elongated head is as complete as could be desired. The instrument in question resembles, in fact, but only so far as the curvature of the blade is concerned, the one used in France at this day, and which is a modification of Levret's instrument. The curve of the French instrument is that of a circle of fifteen or sixteen inches in diameter. And the instrument resembles, in the length of the blade and the shape of the curve, the one devised by Smellie for cases in which the head is high up, and which has been subsequently improved into the modern "long forceps" (British). Smellie's instrument had what is called the pelvic curve, but in other respects it very much resembles the one now submitted to the notice of the Society. I would observe, however, that Smellie's long forceps was intended for a totally different class of cases to those now under consideration.

It may be objected by some that the length of the instrument now recommended is too great for the space in which it is to work, and that there may consequently be danger of wounding or contusing the soft parts surrounding the head. But it must be recollected that although the forceps in question is one inch longer in the blades than the ordinary instrument, it is only half an inch of additional length with which we have to do internally; the other half inch of additional length is altogether outside. And if the instrument be adapted to the shape of the head it must be capable of being introduced without injury to the soft parts. A careful operator would not be likely to do more harm with this than with any other instrument, and before applying it he would take steps to assure himself of its applicability. But besides all this, instruments having as long and even longer blades are the ones commonly used abroad in *all* cases.

The question which in the next place naturally presents itself for examination is the following one. How often will an elongated condition of the head, such as that described, be met with in actual practice? Not in ordinary easy labours; not in cases where the parturient passages are of the average size, or where the necessity for the use of the

forceps arises from simple inertia of the uterus; but in long, difficult labours—those of primiparæ especially, where the head undergoes very considerable compression, and, occasionally, very remarkable elongation—the very cases, however, in which the forceps is most valuable as a means of hastening the termination of the labour.

Looking at Van Pelt's measurements we see that in 646 cases the occipito-mental diameter exceeded five inches and three quarters in no less than twenty-eight cases, while in three cases it reached six inches; these measurements, let it be remembered, having been taken *some little time after delivery*. Now if, as I believe I have shown, the ordinary obstetric forceps is inapplicable in cases where the diameter in question is upwards of five inches and a half in length, we get this numerical result from Van Pelt's figures—that in about four per cent. of all cases a difficulty would be likely to be encountered in the use of the ordinary instrument, supposing their use to be attempted. And it is evident that this does not include the whole truth, it being probable that many cases will be met with in which medium-sized heads will be liable to considerable elongation during labour. Van Pelt's observations, in other words, give us no means of arriving at a conclusion as to the actual length of the head *during* parturition.

It may be objected to what I have stated, that, granted the occasional occurrence of the degree of elongation of the head alluded to, it is not to be expected that unless in some very rare instances the two things, undue elongation and necessity for the use of the forceps, will come together. The answer to this is, that it is the difficulty which is experienced in propelling the head through a narrow parturient canal (whether the narrowness be absolute or relative amounts to the same thing), which indirectly brings about the distortion, moulding and elongation of the head which has been described, and it is precisely in such cases as these that the forceps are most likely to be called in requisition.

But I would remark further, we do not know how often the attempt to use the forceps has failed, nor are we in pos-

session of data for determining whether the cases in which difficulty is stated to have been encountered were cases in which the operator was *maladroit* or not. We do not know how often really good operators have failed, and it is quite conceivable (though it would be next to impossible at this moment to prove the thing or to disprove it) that difficulty of the kind here alluded to has been very frequently met with, though unrecognised as such.

And, even admitting the rarity of the occurrence of the difficulty I have pointed out, it is highly important that it should be known and recognised. The occurrence of an unexplained and unexplainable failure in the application of a remedial agent or manœuvre of any kind is calculated to damage its value in the mind of the practitioner, and in reference to the use of the forceps it is highly desirable that any misconception, if misconception there be, should be removed.

The illustrious Denman, speaking of the application of the forceps, says:[1] "the success of every operation must necessarily depend, not upon the excellence of the instrument, but upon the justness of the idea entertained of it in the mind of the person who may perform it, and the dexterity or skill with which the instrument may be guided by his hands." And these observations must be admitted to be perfectly just. But however desirable we may consider it to preserve simplicity in our instruments and appliances, we cannot, at the same time, allow ourselves to forget that simplicity may be pushed too far. It does not appear to be in the nature of things possible that one form of forceps can be the best and the most appropriate in every imaginable case. The variations in the size and shape of the fœtal head obviously require corresponding variations in the size and shape of the instrument to be used, just as in the performance of lithotomy the variations in the size of the stone require to be met with extracting instruments correspondingly modified in size and shape. The only modification of

[1] Vol. ii, p. 106, 4th ed.

the obstetric forceps hitherto admitted and recognised is that which has reference to the *position* of the head in the parturient passage. In short forceps and in long forceps alike there is one size and curve of the blade; the principle of the necessity for adapting the blade and its curve to the *shape* of the head has not yet been admitted; it is this principle which I have endeavoured to establish by means of the foregoing reasoning. Admitting the necessity for adaptation of curve of head to curve of forceps—and who will refuse this?—the truth of the principle in question is self-evident.

In the original instrument of the immortal inventor of the forceps—our countryman Chamberlen—the curve of the blades and the length of the blades are identical with those of the instrument now in use in this country, and the perfection of the instrument consists in the adaptation of this particular length and curve of the blades to the shape of the fœtal head, such as we find it to be in ordinary cases. It is then only a further development of the principle on which our ordinary instrument is constructed and applied, to insist on the necessity for a modification of the shape of the blades to suit modifications in the shape of the head.

I have hitherto spoken only of excessive elongation of the head as capable of occasioning *difficulty* in the application of the ordinary form of forceps, but, if I am not mistaken, a certain number of cases will be met with in practice in which, although it may be possible to apply the ordinary instrument, the modified forceps would be found better adapted to the shape of the head.

Dr. Graily Hewitt at the same time brought forward one of the original Chamberlen forceps in the possession of the Royal Medical and Chirurgical Society, and which, by the courtesy of the Council of that Society, he had been allowed to exhibit this evening, in order to afford the fellows an opportunity of comparing it with the instruments in ordinary use, and with the modified form of forceps now suggested.

Dr. Barnes observed, that it might be supposed that there was not much more to say upon the construction of the forceps. The forceps had exercised the ingenuity of more men than perhaps any other instrument, and certainly the literature upon this subject

was more extensive. With reference to the measurements of Van Pelt and others, it was important to bear in mind that the dimensions of the fœtal head were very much a question of race. The American child's head was not of the same size as the English or the French child's; and if anyone desired to see heads developed in the most magnificent proportions, he should go to Ireland. It would not do, therefore, to take the fœtal measurements of one race and apply them to the obstetric theories of another. He (Dr. Barnes) had encountered the practical difficulty signalised by Dr. Graily Hewitt, but had not met it in the same way. At one time he was in the habit of using the Dublin straight forceps, which is somewhat longer than the one described by Dr. Hewitt as being in ordinary use in England. This instrument he had now abandoned; it was apt to split the perinæum. This objection he thought applied to all straight short forceps. To introduce this instrument, it was necessary to press the handles far back, stretching the perinæum backwards, and then during extraction, as the bow of the blades sprang directly from the handles, a great strain upon the perinæum was unavoidable. For some years past, he had used exclusively the forceps of Mr. Roberton, of Manchester. Being called upon frequently to apply the forceps, he was able to say that this instrument was admirably adapted to all the ordinary emergencies, whether the head lay at the brim, in the cavity, or near the outlet. The pelvic curve, the length of the blades, and the length of the shank, kept the perinæum free from any strain whatever beyond what was incidental to the passage of the head itself. The instrument added nothing to the danger to the soft parts. He wished to add, that it was not a fair representation of the application of the forceps to show it as embracing the head with perfect symmetry. The grasp was oblique, one blade lying on the right brow or temple, the other on the occiput or behind the line of the transverse diameter. This was the necessary consequence of the circumstance that the long forceps was introduced in the transverse diameter of the pelvis, and not with reference to the child's head. This he thought an important rule to follow. In some cases, with the head low in the pelvis, it might be possible to apply the short forceps with a blade on either parietal bone; but it was a bad practice. The pelvis should be the guide for the position of the forceps, not the head.

Dr. Braxton Hicks asked if Dr. Graily Hewitt had tried the long curved forceps in the case he had recited; because in a case of like nature to which he was called there was similar difficulty in applying the short straight forceps; it was found impossible to bring them forward enough to lock, by reason of the pressure of the head against the brim in front of the transverse diameter. Upon employing the long curved forceps, the end of the blade passed above the obstruction from behind, and then, using moderate com-

pression, the head descended. He alluded also to the value of a very loose lock in cases where the blades of the forceps could not be brought opposite one another.

Dr. Tyler Smith thought there could be little doubt that in difficult labour with great elongation of the head the modification of the forceps now proposed would be found useful. He had for many years used an instrument nearly an inch longer in the blade than the shortest of the ordinary short forceps, its great advantage being that the lock could always be kept outside the soft parts of the mother.

Dr. Graily Hewitt, in reply, said that it was satisfactory to him to find that the difficulty he had alluded to had been experienced by others. The object of the paper was to establish what had not yet been established in obstetric practice—viz., the principle of the necessity for adapting the shape and length of the blades to the varying shape and curve of the fœtal head. With respect to the particular instrument exhibited to the Society, which was intended for cases of excessive elongation, it was quite possible that by some it might be considered to be still further improvable by the addition of the pelvic curve; but he believed the straight form which it now possessed was the best, and it was, moreover, very desirable to complicate the instrument as little as possible. In the particular case related he had not attempted to use the long curved forceps: the long curved forceps was no more fitted for dealing with such emergencies as those contemplated than the ordinary short ones, for in both of the instruments in question the length of the blade itself was identical.

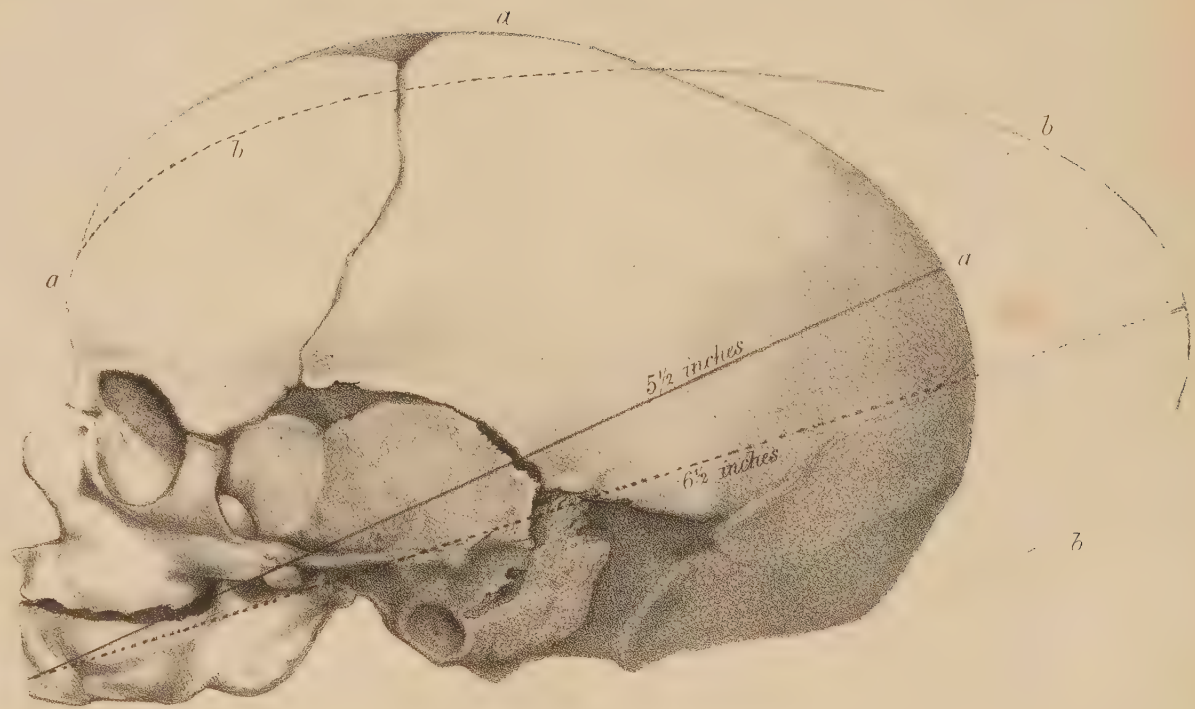
EXPLANATION OF PLATES IV AND V.

Plate IV is intended to represent the change in the shape of the fœtal head alluded to in the paper.

a a a. The shape of the average-sized head *after* parturition, the occipito-mental diameter being taken at $5\frac{1}{2}$ inches. *b b b.* Undue elongation of the head *during* parturition, the occipito-mental diameter being taken at $6\frac{1}{2}$ inches.

Plate V.

Fig. 1. The ordinary forceps *e f g*, applied to a curved line, *a b c d*, which represents diagrammatically the side of an average-sized head, unchanged as regards its form. The blade of the forceps is 7 inches long, the occipito-mental diameter of the head $5\frac{1}{2}$ inches, and the adaptation of the instrument to the curve is evident.



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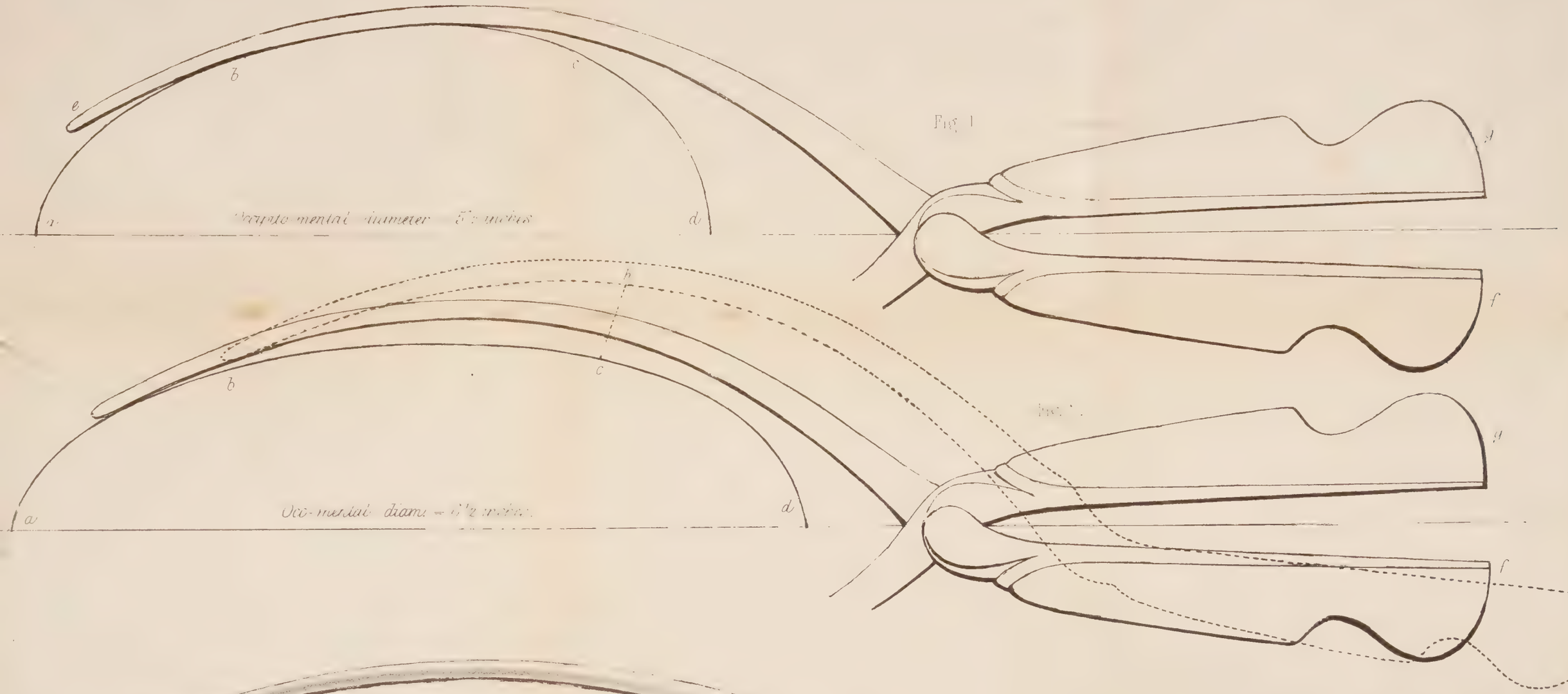

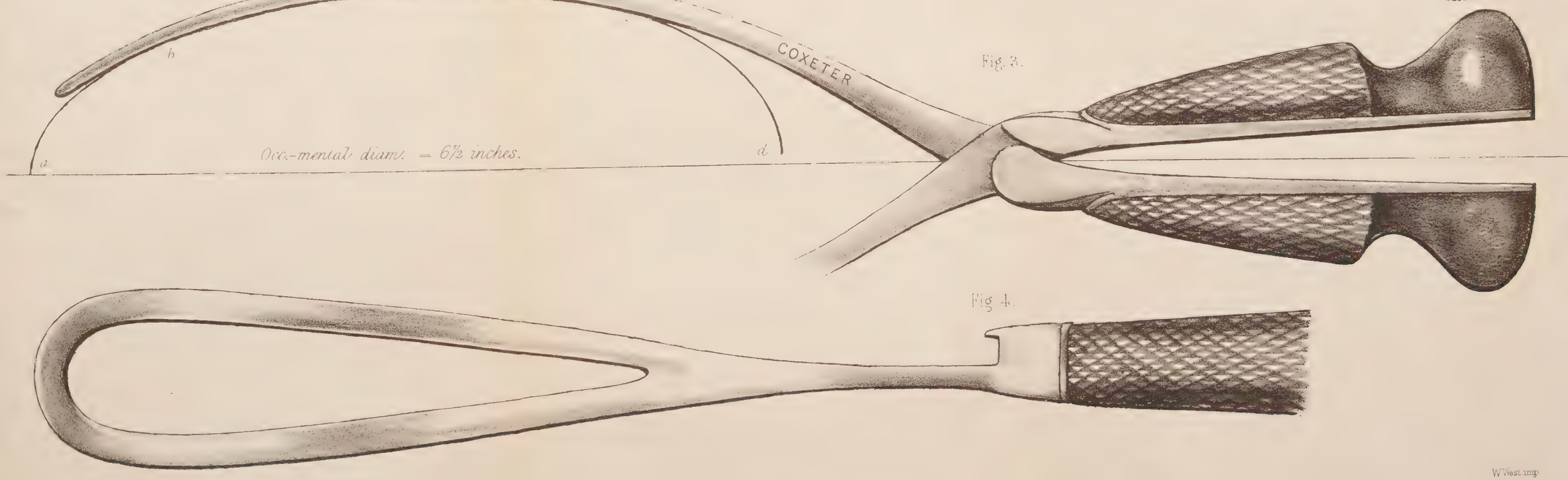

G. Clerevaux del. & lith.

W. West imp.

Fig. 2. Here the 7-inch forceps, *e f g*, is represented as applied to the curve of the side of an *elongated* head, *a b c d*, with an occipito-mental diameter of 6½ inches. It is seen that the curve of the instrument is not adapted to that of the head. The dotted line is intended to represent the blade in the act of being introduced, and at the moment when the difficulty described in the paper is encountered. The dotted line, *c h*, represents the separation of the canal from the head, which must be effected if the instrument is to be pushed beyond the point *b*.

In fig. 3 is shown the new instrument recommended to be used, and which is adapted, by the shape and length of the curve of the blade, to the long curve, *a b c d*, of the elongated head. The blade is 8 inches long, the curve that of a circle 14 inches in diameter. The curves are seen to be mutually adapted one to the other.

In fig. 4 the width and shape of the fenestrum of the new instrument are shown.

ON INFLAMMATION OF THE BREAST, AND MILK ABSCESS; WITH AN ANALYSIS OF SEVENTY-TWO CASES.

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That certain periods of lactation are characterised by a proclivity to acute mammitis, is a fact too obvious to have escaped remark. In most surgical writers who have dealt with the subject something to the following effect may be read: "Inflammation of the breast is commonly met with during the first month or two after the birth of the child, and seldom occurs during weaning" (Erichsen); or, "the disorder shows itself most frequently during the first days which succeed accouchement, more rarely at the period of weaning or during pregnancy" (Scanzoni).

It is the chief purpose of this paper to show that there is another period of peculiar liability to inflammation of the breast connected with lactation, and to that end, the following analysis of seventy-two cases which have been taken as they happened in the writer's public practice (at different

dispensaries and the Middlesex Hospital), is submitted to the notice of the Society. Of the total number, namely, seventy-two, of cases of inflammation of the breast—

58 occurred during lactation.
7 „ „ pregnancy.
7 „ in patients neither lactating nor pregnant.

Of the fifty-eight lactating cases—

19 occurred during the 1st month.
14 „ „ 2nd month.
3 „ „ 3rd month.
1 „ „ 4th month; during the 5th none.
2 „ „ 6th month; during the 7th none.
1 „ „ 8th month.
1 „ „ 9th month.
17 after the 10th month.

Total 58[1]

[1] The total number of cases were observed in three series, as detailed below:

	Lactating.	Pregnant.	Not Lactating and not Pregnant.	Total.
1st Series, published 1853	37	3	4	44
2nd „ „ 1860	15	3	1	19
3rd „ not published .	6	1	2	9
	58	7	7	72

And as detailed in the following Table the cases of each series were distributed over the different months of lactation.

		Month after Accouchement.									
		1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th and subsequent.
1st Series, total lactating ...	37	12	10	3	—	—	2	—	1	1	8
2nd Series, total lactating ...	15	6	3	—	1	—	—	—	—	—	5
3rd Series, total lactating ...	6	1	1	—	—	—	—	—	—	—	4
Total	58	19	14	3	1	—	2	—	1	1	17

Thus of the fifty-eight lactating cases, between 56 and 57 per cent. occurred during the first two months after delivery: during the seven subsequent months up to the ninth month inclusive, only 14 per cent.: after the ninth month 29 per cent.; therefore, if we represent the liability to inflammation during the first two months of lactation by the number 4, then, as far as the writer's observations go, the liability during the following seven months collectively falls to 1, and for the period after the ninth month rises to 2.[1]

The proclivity to inflammation after the ninth month must be considered as an induced proclivity, having its origin in a certain condition of the system brought about by over-lactation.

It becomes a question; what is over-lactation? What is the physiological proportion in the "larger genesial cycle" (to use the expression of Dr. Tyler Smith), proper to the lactating period? Is it not probable that that proportion is equivalent to the period of utero-gestation, in accordance with some law of the organism allotting to the upper and lower segments of the body an equal share in the maturation of the offspring?[2]

[1] In the two subjoined cases, which have been reckoned amongst those occurring during pregnancy, the previous lactation had been carried beyond the tenth month.

Case 1.— — White, æt. 23, "has abscess in the lower lobes of the left breast; she is pregnant three months; weaned her last child six months, since, having suckled it during twelve months."

Case 2.—Ellen Morris, æt. 35, "has abscess in the lower lobes of the right breast; she is pregnant four months; weaned her last child three months since, having suckled it during twenty months. At the sixteenth month of lactation she had abscess in the breast of the left side.

[2] Hyper-lactation is not necessarily lactation too-prolonged. The following case, which has come under the writer's notice at the Middlesex Hospital since the foregoing was written, will serve to illustrate what is alluded to.

Case.—Martha Phillips, æt. 22, needlewoman; is suckling her first child, now between seven and eight months old; she has inflammation of the left breast. Three months since she took a second child, aged seven months,

That there is a special cachexia produced by over-lactation, the proneness to inflammation above indicated itself suggests. The writer believes that this cachexia is marked by a peculiar dryness and chalkiness or opacity of the skin, by drowsiness, constipation, and dyspepsia; loss of appetite, incontinence of urine, and by physical and remarkably by mental lethargy, the task of weaning, for example, appearing to the patient to be one of insurmountable difficulty. The breasts become preternaturally large and inelastic, the peripheral portions of the lobes being most engorged; the secretion of the gland scanty and poor in quality.

All practitioners must have met with various instances of disorders of the asthenic type as the result evidently of excessive lactation, such (*e. g.*) as neuralgic and other nervous affections. The occurrence of inflammation of the breast after ten months' lactation will hardly be doubted to be the result of debility; now, since it has been shown that the months of lactation corresponding to the woman's re-established health and strength are those which enjoy comparative freedom from the dangers of inflammation, may it not be reasonably suspected that the frequency of inflammation in the earlier periods of lactation has some relation to the exhaustion consequent upon the efforts of parturition and the hæmorrhage incidental thereto;—and that a certain proportion of the attacks of the earlier period and the attacks of the later period (those after the tenth month) have an analogous if not a similar etiology.

As to whether the right or left breast was the one attacked, observation was made in sixteen instances, and it was found that either breast was so equally with the other. M. Velpeau has recorded his observations on this particular in 200 cases (see Sydenham Society's Translation of Velpeau's work on the 'Diseases of the Breast'), and the writer has to state that his own more limited

to wet-nurse. She complains of sleepiness; want of appetite; constipation, the bowels being relieved but once a week; and inability to retain her water when she moves about.

experience coincides with that of the great French surgeon.

In twenty-six instances observation was made as to the segment of the gland which contained the focus of inflammation.

The upper lobes were thus affected in			7	cases,
The lower	„	„	14	„
The lateral and lower	„	„	2	„
The lateral	„	„	1	„
The gland generally was affected in			2	„

The lower segment of the gland thus appears to be twice as liable as the upper one to be the seat of intensest inflammation.

The writer would not have ventured to bring the foregoing facts before the notice of the Society but for the practical deduction which it appears to him may be legitimately drawn therefrom; namely, that in all but exceptional cases active, so called, antiphlogistic measures should be avoided in the treatment of inflammation of the breast.

No one, it is presumed, would attempt to combat inflammatory action in a woman who had been nursing nine or ten months, by depletory remedies, and there is little to justify one in attributing the various inflammations to which puerperal women are subject, to a plethoric condition; modern practice is rapidly tending to a bold employment of such means as give support to the system, in place of the opposite. The writer wishes to be understood, not as advocating "violent stimulation," in cases of simple vascular engorgement, but as suggesting the propriety of a decidedly tonic and supporting plan of treatment where the inflammatory attacks are, as they so often are, sudden and almost uncontrollable.

The greater frequency with which the intensest inflammation occupies the lower lobes of the breast, as evidenced by the formation of abscesses in that part, is a point of significance as regards this question; it shows that the mere infiltration by gravitation of the most dependent portions of the gland

is a sufficient bar to resolution. The severity of the disorder in patients who are suffering from constitutional disease, and the occurrence of abscess of the breast in the non-lactating female very rarely, except she be either strumous, chlorotic, or debilitated in some way or other, are circumstances which, it appears to the writer, corroborate what has been advanced.

Before the Fellows of a Society, such as the present, the writer feels it would be supererogatory, if not impertinent, were he to enter upon the details of treatment generally; upon some particulars, however, he begs permission to say a few words.

1st. Continuous poulticing day after day, and as is too often the case week after week, the writer does not hesitate to describe as certainly mischievous, and a hindrance to recovery. It cannot be denied that occasionally, where there is great hyperæsthesia, and deep sympathetic pain, a large warm poultice proves most soothing and grateful, probably from possessing in addition to its heat and moisture, and air-excluding qualities, the property of exact adaptation to the so exquisitely sensitive inflamed surface, and of giving equable support to the body of the gland itself. Under ordinary circumstances, the writer believes cotton-wool soaked in oil, or fine lint spread with Unguentum Resinæ, to be preferable to the substances employed as poultices, both in the light of a remedial means and as free from the disagreeables attendant on poulticing.

2nd. The recumbent position, so well known to be advantageous, may be *rationally* insisted upon, from the consideration of the fact of the more frequent occurrence of abscess in the lower lobes of the mammary gland. The writer is not aware that other observations than his own have been made in respect of this feature, namely, as to the commonest seat of abscess, but they are probably sufficient to confirm a practice which experience has taught is beneficial,—beneficial by obviating the undue or disproportionate infiltration of particular segments of the organ.

3rd. The action of belladonna in arresting the secretion

of milk has been lately much spoken of. The writer has on many occasions prescribed belladonna, in the form of an ointment, in the disorder under consideration, but without receiving much encouragement from the results, rather on the contrary, several patients having complained of an increase of pain after its application.[1]

4th. Regarding the time for, and the method of employing the bistoury for the evacuation of the abscess, considerable variety of opinion appears to be held. The too early and too free incision involves an excess of pain and hæmorrhage, while delay beyond a certain point risks the sloughing of the integument and the torture of spontaneous perforation.

The detection of fluctuation by the ordinary manipulations is, in the case of abscess of the breast, a most painful process to the patient, almost more painful than the actual use of the knife for procuring the exit of the matter. The writer is accustomed to depend upon those indications of the existence of matter afforded to the eye alone : If the inflamed breast be completely bared, the protuberance and tension, the glazed surface and peculiar colour of the skin over the seat of an abscess, will prove a very sufficient guide to its situation, as well as to the best point for incision.[2]

5th. Led by the results of experiment in certain other

[1] The writer has had no opportunity of testing the efficiency of belladonna in *preventing* inflammation of the mammary gland, or in removing congestion in its earliest stages. Mr. Marley's 'Evidence on the Action of Belladonna,' published in the 2nd volume of the Society's 'Transactions,' and personal communications of other medical friends, do not permit him to doubt the great value of that substance when employed as a preventive agent.

[2] No instrument is better for the purpose of opening a mammary abscess than a sharp-pointed "tenotomy knife;" with it either a simple puncture or a lengthy incision can be effected, while its small size enables it to be concealed from the patient, or if seen, is not formidable. The writer cannot refrain here from expressing his opinion that the introduction of the finger into the cavity of the abscess, for the purpose of breaking down septa, as recommended by Dr. Swayne, in his recent work, is an uncalled-for proceeding.

local inflammatory disorders, the writer has adopted the employment of galvanism in the treatment of the sequelæ of mammary abscess, in sinus of the breast, and the painful œdema so apt to remain after the more acute phenomena of inflammation have subsided. A galvanic current of weak intensity only is required, such as is afforded by the single cell apparatus in ordinary use for administering the interrupted current.

In several instances the writer has been surprised by the great improvement in the condition of the parts on the day following a galvanization of but ten or fifteen minutes' duration. The indolent edges of the fistulous opening assuming a healthy appearance, and the dull red colour of the infiltrated skin giving place to tint peculiar to resolution.

Whether galvanism acts beneficially through the medium of the nerves, or by stimulating the blood-vessels directly, or by promoting the rapid absorption of exudation products, and thus clearing away the debris which hampered the capillary circulation, the writer does not feel it competent for him here to hazard any hypothesis. But of the practical utility of galvanic stimulus as a therapeutic measure in the conditions above named, he has had the most satisfactory proof.

The writer believes that the employment of galvanism in the way above indicated, to be a new application of that remedial agent, he, however, has to express his indebtedness to a paper of Mr. Spencer Wells's published some years since, "On the employment of a weak Galvanic Current in treatment of certain forms of Ulcer," for suggesting to him the trial of it in other disorders.

The writer has confined his remarks to the immediate question of the paper; he, however, has so frequently to be a witness of the injurious effects of over-lactation on the children of the poorer classes, that he feels it to be almost a duty to state as much. He is aware that some Fellows of this Society, far more able than himself, have most fully considered the evils of improper feeding of children. He,

therefore, ventures only thus incidentally to draw the attention of the Society to the subject.

Mr. Ballard said he thought the author, in assigning a cause for mammary abscess, had laid too much stress upon the health of the mother, and had not made sufficiently prominent that which seemed to be really the exciting cause of the evil—namely, a demand made upon the breast for an amount of secretion it was at the time unable to yield. The statistics quoted were in accordance with general observation, and seemed to corroborate this view, the occurrence of the greater number of cases in the earlier periods of suckling being caused by the child sucking in search of a greater quantity of milk than the gland has as yet acquired the power of secreting. Again, in the latter periods there may be a failure of secretion in consequence of the re-establishment of menstruation or of pregnancy; the demand continuing as before, the breast is exposed to the irritation of excessive sucking. Breasts, of which the nipples are defective, are very liable to become inflamed; their secreting power is usually very imperfect, although the determination of blood to them is the same as if they could secrete freely. Vain attempts to procure milk under these circumstances are very apt to induce inflammation and abscess. In the treatment of an abscess of the upper segment of the breast, he had found the drainage-tube very useful; it enabled the pus to flow freely when, otherwise, none could escape.

Dr. Braxton Hicks thought the prophylactic treatment the most important to obstetricians. He had found belladonna (equal parts of the extract and glycerine) applied externally, at the same time giving internally iodide of potassium in eight-grain doses, a most effective method of checking the secretion of milk, where, from various circumstances, it was desirable to do so, and instanced a case where the child could not suck, in consequence of imperfect nipples, and of the engorgement of the breast, and where it seemed impossible to avert abscess, in which this treatment had answered admirably; he had never seen any ill effects from its use. He wished to hear the experience of the Society upon the point.

Dr. Druitt said he supposed the present discussion was not intended to embrace the whole causes and treatment of breast abscess, otherwise the use of pressure, and particularly of plaster-straps, as preventives and as remedies, would have been mentioned. He believed that in every or almost every case of weaning, plaster-straps should be used to take off the weight of the breast, to compress it gently, and thus to aid Nature in restoring the natural size and beauty of the organ. In this case beauty was associated with health.

Dr. Tyler Smith observed that the chief causes of mammary abscess soon after parturition were obstructed milk-ducts, and the irritation of the gland by fissures of the nipple. The latter caused suppuration of the glands, just in the way that irritation of the urethra or vagina caused suppuration in the inguinal glands. The best way to prevent the abscess was to cure the crack in the nipple, and he knew of nothing better than painting it with a strong solution of the nitrate of silver. Abscess depending on obstruction of the gland could often be prevented by belladonna. He had found smearing the breast with equal parts of the extract and water, a better way of applying it than in the form of ointment. Bromide of potassium seemed to have a specific effect in diminishing the action of the mammary glands, both when given internally and used as a lotion. In the important class of cases first pointed out by Mr. Nunn as occurring at the end of lactation, and due apparently to fruitless sucking, the weaning of the child was always advisable. In chronic abscess, support and compression of the breast by strapping or belladonna plasters, leaving the openings of sinuses free for the discharge of matter, was of the greatest possible use.

Dr. Tanner said that there were two or three points in the valuable paper which had just been read on which he should like to make a few observations. And first, as to the women who most frequently suffered from inflammation of the mammæ, Dr. Tanner had noticed that it was much more common in strumous, weakly subjects than in others; and that such labours as were attended with flooding seemed to predispose to it. Consequently he quite agreed with the author that, speaking generally, antiphlogistic remedies were contra-indicated. Then, as regards the use of belladonna in preventing the inflammation running on to suppuration, he (Dr. Tanner) had great faith in it. He thought that this drug often failed to be of use because it was not employed with sufficient freedom. The best plan was to paint the whole gland with it, and then apply a cold bread-and-water poultice, repeating the application twice or thrice in the day. As to the ill-effects of over-lactation, no one who was engaged in hospital practice could fail to notice them. He remarked, that he never sat in the out-patient room without seeing several cases where the women were doing themselves great mischief by undue lactation, and frequently he found remonstrance useless, as the patients knew they were acting unwisely. Dr. Tanner briefly related the particulars of a case which had interested him very much in illustration of the truth of his remarks. The chief points were these:—A strong, healthy young woman, twenty-three years of age, married in 1856. Her first child was born in August, 1857, and she suckled it for more than two years, though after the first twelve months her health began to fail. The second child was born

at the end of 1859, so that pregnancy commenced during the time of nursing. The child was suckled for six weeks only; but it was weak, and never appeared to thrive. The mother's health quickly became worse, and she died of phthisis in September, 1860; while the second infant wasted and perished two months afterwards. Now, here was a strong woman, marrying a healthy man, and neither party having any hereditary taint of phthisis or other serious disease. The first child lived because the mother was strong for the first few months of nursing, and afterwards it was fed with cow's milk as well as by the mother. The second child's life was sacrificed because, when it most needed good milk, it had only the impoverished secretion afforded by the mother. Dr. Tanner said that he could refer to other cases quite as distressing.

Mr. Gervis remarked on the delay common amongst the poor in putting the child to the breast after delivery, as a not unfrequent cause of acute mammitis occurring at the commencement of lactation. He had found it a still too prevalent notion that the child should not be allowed to suck until the third day, and by that time the breasts were often very considerably swollen and tender, and the nipples retracted; much painful manipulation was had recourse to to draw out the nipple, and thus inflammatory action frequently provoked in the already highly-congested breast. Respecting the frequency with which lactation was unduly prolonged, as referred to by Dr. Tanner, Mr. Gervis had found in out-patient practice that the usual incentive to it was the desire to ward off a speedy recurrence of pregnancy, and that explaining to the patient the inutility of lactation as a protection after, at all events, the first few months was generally effectual in obtaining her aquiescence in the propriety of not continuing suckling to the injury of her own and her child's health.

Dr. Madge said there was one important point in the subject of mammary abscess which had not been alluded to in the paper nor in the discussion, although it was one that must be an occasional source of anxiety to those engaged in practice—namely, the advisability, in cases of abscess of one breast, of weaning the child, so as to prevent the irritation of lactation on the healthy side from keeping up, by sympathetic influence, the tendency to suppurative inflammation in the other. Many high authorities recommended weaning the child under such circumstances, and he had no doubt that some cases, as regards both mother and child, would not get on well unless that course were adopted; but he had had several cases in which, by carefully applying strapping to the affected side, all irritation and inflammation had subsided, and the mother had been enabled to suckle the child with the unaffected breast to the full period of lactation. He had every confidence in the preventive and curative effects of strapping the

breast, and thought it better in every respect than any other mode of treatment.

Dr. Gibb inquired if Mr. Nunn did not draw a wide distinction between the cause of milk abscess at an early period of lactation and that occurring after prolonged suckling. He thought that not unfrequently changes in the milk itself in the latter were the real cause of the abscess; the chief of these changes he believed to be a fermentation of the sugar of the milk at the moment of its secretion from constitutional causes, giving rise to the formation of vibriones and monads, producing sometimes great irritation, with a tendency to suppuration. He had elsewhere gone into this subject; but he thought it would be a matter of importance to examine the milk as taken from the breast, when the abscess occurred late in suckling. Of several hundred specimens of milk which he had examined, the milk had been found in the condition he described in a few instances, when there happened to be a co-existing abscess in advanced lactation.

Dr. Richards believed that as much as nine tenths of the entire number of mammary abscesses, occurring within the first two or three months of childbirth, were produced by badly formed, fissured, or ulcerated nipples. He always considered the sore nipple the *avant courier* of bad breast. Lactation under these circumstances was so exquisitely painful, that very few mothers, especially primiparæ, had courage to persevere. Engorgement and inflammation of the breast resulted, aggravated by absorption from the ulcerated nipples. Any application to, or method of treatment of, such inflamed mammæ is non-effective, unless you can remove the cause, the soreness of the nipples. Failing in this, it is far better to wean the child at once rather than wait for suppuration. When suppuration does occur, the best treatment was hot fomentations and poultices; an early and free evacuation of the pus followed by well-regulated pressure on the breast and a generous diet. Local depletion and applications of belladonna, &c., are worse than useless, although such treatment might be of much service in mammary inflammation arising from cold or injury from accident, more especially at a later period of lactation. He had found the metallic nipple-shields of much service, and could refer to great numbers of cases, more especially in strumous, thin-skinned women, where sore nipples, when fissured and even half ulcerated away, had healed under their use, and he had never found any ill effects from them.

Mr. Owen had found great benefit, in the treatment of sore nipples, from the use of a lotion composed of borax, oil of almonds, and water.

Mr. Nunn, in reply, said that he had not pretended to deal with the subject of inflammation of the breast generally. He desired specially to lay before the Society the fact, that out of

72 cases nearly 30 per cent. had occurred after lactation had been prolonged beyond the tenth month, and that he had met with as many cases in women who were either pregnant, or neither pregnant nor lactating, as he had in women who were lactating between the second and ninth month after delivery. He did not approve of the use of drainage tubes in sinuses as superficial as those of the breast. He believed galvanization would effect more. His experience was of cases in which the inflammation was fully established; he could, therefore, say nothing as to the prevention of inflammation in the breast by the application of belladonna. He had extensively used pressure, as recommended by Dr. Druitt, and so well-described by him in his work on Surgery, and had found it most serviceable. Mr. Nunn remarked, that a very convenient means of support to the breast could be made of spongio-piline, shaped into hollow cones. He quite agreed with Dr. Tyler Smith, that sore nipples were a frequent cause of inflammation, and as to the treatment. He could not coincide with the President, however, that ointments were bad vehicles for medicinal substances—that they prevented absorption. On the contrary, he believed they favoured absorption. He confessed he had made no careful examinations of the milk of hyperlactating females, but he was quite prepared to hear from Dr. Gibb that such abnormal conditions of that secretion as were met with by Dr. Gibb did obtain. In respect of the special influence of the mercurial ointment, he was scarcely prepared to say that it was possessed of sedative properties in a higher degree than some other metallic preparations; he, however, occasionally found very satisfactory results from its use. He was glad to hear Dr. Tanner advocate the exhibition of tonics and the administration of support. His own experience of these remedies led him to oppose depletory measures.

July 3rd, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—41 Fellows and 8 visitors.

G. W. Nichols, Esq., Rotherhithe, was duly elected a Fellow of the Society.

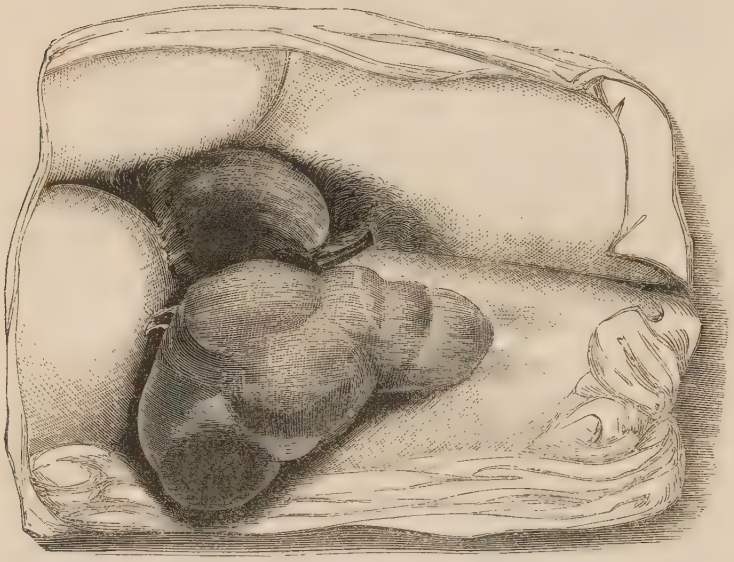
A CASE OF FIBROID TUMOUR SPRINGING FROM THE POSTERIOR LIP OF THE UTERUS, CAUSING COMPLETE PROLAPSE, AND SIMULATING INVERSION OF THE UTERUS; REMOVAL BY LIGATURE; RECOVERY.

By Robert Barnes, M.D., F.R.C.P.,
PHYSICIAN TO THE ROYAL MATERNITY CHARITY; ASSISTANT OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

Dr. Barnes exhibited a wax model of a case of fibroid tumour of the cervix uteri. The tumour had dragged down the uterus and vagina, so that the whole mass was external to the vulva. The case had been taken at first for one of inversion of the uterus. The following history of the case was drawn up by Mr. Woodman, resident-accoucheur at the time at the London Hospital.

Maria L—, æt. 37, single; admitted May 1st, 1861. Catamenia regular till a short time of suspension occurred, about two years ago. Has menstruated regularly since. Suffers from leucorrhœa; has done so for two or three years. No history of tumours in family. A year ago she complained of sickness, faintness, headache, and pain in the

back and down the thighs; was so ill that she was obliged to leave her place. She never had a child. These symptoms continued till a month ago, when "something seemed to give way," and a tumour suddenly appeared externally. She was seen by Dr. Griffiths, the house-surgeon. By his advice she came to the hospital. On first admission a large red tumour was seen between the legs. No os uteri was visible. The tumour had a constriction in the centre, and



the lower part appeared harder than the rest, and felt like a fibroid tumour. The upper part simulated the inverted uterus; it was intensely congested, red, and tender, with ulcerated spots covered with a thick, white, horribly offensive discharge. By close observation Dr. Barnes discovered the os uteri anteriorly, very small, but admitting the uterine sound to a depth of two inches and a half, and the fundus of the organ could be felt through the prolapsed vagina, external

to the vulva. The uterus thus clearly defined, the true nature of the tumour was revealed. The tumour was supported in bed. Lot. Plumbi applied, and much of the tenderness thus diminished. Her health, which was much deteriorated, was improved by liberal diet and the free use of stimuli. On the 9th of May Dr. Barnes ligatured the tumour by double wires, with Mr. Hutchinson's screws; the ligatures were tightened daily. On the 11th she was seized with vomiting and great tenderness over the lower part of the abdomen, with pain, and feverishness. I gave her opium and Mist. Effervescens, and these symptoms soon disappeared. Lotio Creasoti was applied to the tumour whilst strangulated, and was successful in removing all fœtor, and its beneficial effects extended to the ward. The tumour came away on the 13th of May, in excellent preservation from the creasote. The slight hæmorrhage was checked by Sol. Ferri Perchlor., Lotio Zinci Sulph. was applied to uterus, which rapidly improved, and was replaced on the 19th. It again prolapsed on the 20th. Replaced then, it gave no further trouble. Her general health improved rapidly after this, with the use of Mist. Quinæ c. Tinc. Ferri Mur. She remained in hospital nearly a month. The uterus remained *in situ,* and showed no tendency to prolapse. At the end of that time she left for the country. A microscopic examination showed the tumour to be a fibroid one, with numerous large nuclei (like the so-called "Dermoid").

GLANDULAR CYSTIC TUMOUR OF THE MAMMA.

Mr. Squire exhibited a specimen of glandular cystic tumour of the lower half of the mamma. It had a hard, fibrous base, and the distended cyst had obscured its lobulated character. It had increased somewhat rapidly, and was painful; and but for the nipple not having been retracted, might have been mistaken for scirrhus previous to removal.

On opening the cyst, lobules in various states were seen in the form of acini, or small pedicles. Sketches of its microscopical characters were presented.

OVARIAN TUMOUR REMOVED BY OVARIOTOMY.

Mr. Spencer Wells exhibited an ovarian tumour removed by ovariotomy, on the 25th of June, from a single woman thirty-four years of age, in the Samaritan Hospital. The solid portion of the tumour weighed twenty pounds; some of the cysts had contained twenty-five pounds of fluid; and there had been about twelve pints of fluid in the peritoneal cavity. The patient went on remarkably well for four days after the operation, but then began to sink suddenly, and died. At the post-mortem examination signs of slight peritonitis were observed by recent lymph on the anterior surface of the liver; and there was a good deal of turbid serum present, while the intestines were greatly inflated; but there was no blood in the abdomen or pelvis. The pedicle had been cleanly divided, and it appeared that death had taken place from simple exhaustion. Mr. Wells thought the case instructive as an instance of the result of putting off the operation till too late. He saw the patient once sixteen months ago, just as she had been discharged incurable from an hospital, and he then advised ovariotomy. But the patient had been persuaded by others to wait until almost at the point of death before submitting to it. The tumour had grown in the mean time to an immense size, while the patient's health had been broken down by long-continued suffering. Yet the operation was performed with but little difficulty; and had it been done earlier, the probabilities of success would of course have been much greater.

FOUR ADDITIONAL CASES OF OVARIOTOMY.

By W. Tyler Smith, M.D., F.R.C.P.,
PHYSICIAN-ACCOUCHEUR TO ST. MARY'S HOSPITAL.

The cases now brought before the notice of the Society are intended as an appendix to the paper read in February last.

Case 5.—*Polycystic disease of the left ovary; tapping five times; ovariotomy; recovery.*

Mrs. G—, æt. 44, married twenty years. Had borne a child nineteen years ago, but had not since been pregnant. Catamenia always regular and natural. In 1859 she first discovered a tumour in the lower part of the abdomen, for which she consulted Dr. Robert Lee and the late Dr. Rigby. The tumour proved to be ovarian, and increased rapidly in size. In December, 1859, she was tapped by Dr. Synnot, her usual medical attendant. The tumour refilled, and she was tapped again in April, 1860. The tapping was repeated in June, November, and December of the same year. In January 7th, 1861, Dr. Synnot asked me to see the case with him. She was then of considerable size, and at Dr. Synnot's wish the question of ovariotomy was fairly put before the patient. After due consideration, it was decided that the tumour should be removed, and she was operated on March 1st, in the presence and with the assistance of Dr. Synnot, Dr. Gueneau de Mussy, Dr. Murray, Mr. Edwards, and Mr. Staples. The incision was about five inches long. The cyst was firmly adherent over almost its entire surface, to the intestines and abdominal walls. The fluid was withdrawn through a large trocar, and the adhesions carefully broken down with the fingers. The pedicle was transfixed and tied, and the ligature brought out at the lower edge of the wound. The incision was closed by deep and superficial

silver wire sutures. The abdomen was then covered by a thick pad of cotton wool, and supported by a flannel bandage.

This patient complained of intense pain for the first two hours after the operation, and opium was given freely to relieve it. Afterwards, the case went on very favorably under the care of Dr. Synnot. At the end of a week all the sutures had been removed, and a month after the operation, she went to Tunbridge Wells for change of air. She has since remained well, with the exception of occasional fits of spasmodic indigestion. Up to the present date, the ligature has not come away. It appears to be held firmly by lymph, but there is not much discharge, nor has there been much from the first.

CASE 6.—*Monocystic disease, connected with the left ovary; ovariotomy; death from acute peritonitis, twenty hours after the operation.*

Mrs. H—, came to London in March, from the neighbourhood of Boston in Lincolshire, for the removal of a tumour, supposed to be ovarian. It was of large size, and evidently consisted of a single cyst. The patient was the wife of a small farmer, about thirty-five years of age, the mother of five children, and apparently, with the exception of the tumour, in excellent health. The case appearing to be very favorable for the operation, I proceeded to remove it on the 15th of March, in the presence of Dr. Murray, Mr. Noverre, Mr. Edwards, and Mr. Chisholm. The small incision only was necessary. There were no adhesions, and after tapping, the sac, which was comparatively thin, slipped out with the greatest ease. It was found to be a single cyst, in the broad ligament, close to, but not actually involving the ovary. The pedicle was thin and broad, and it being more convenient to tie it behind the ovary, this was removed with the cyst. The pedicle was transfixed and tied as in the other cases. After it was secured, and the wound in great part closed by sutures, it was found that a good deal of oozing

was going on. The incision was therefore reopened, and the source of the loss sought for. It was discovered that the pedicle had been split, and a vessel injured behind the ligature. A fresh ligature was applied close to the side of the uterus, and the loss of blood ceased. One of the sponges used in the operation was now unfortunately missing, some time was lost in searching for it in the pelvis. She seemed, however, as well as patients usually are after the operation, and the quantity of blood lost was not very great. Before the wound was closed, the peritoneum was felt to be glutinous, and I regretted that it was not bathed with warm water. In the course of the night peritonitis came on, accompanied by severe pain,, violent vomiting, and great tympanites. She was treated by leeching, calomel, and opium, but died twenty hours after the operation. A post-mortem showed vivid redness of the peritoneum, with a profuse effusion of coagulable lymph. The liver and kidneys were in a granular condition. This patient was, however, in better apparent health than any other upon whom I have operated.

CASE 7.—*Polycystic disease of the right ovary; ovariotomy; recovery.*

Mrs. S—, æt. 29, a delicate-looking woman, the mother of four children, was delivered of the last, six months ago. During this pregnancy, she was larger than usual, and after her confinement, a tumour was felt in the abdomen, which increased to a very large size. She was tapped, but the fluid soon reaccumulated. When I examined her in March, the abdomen contained a single cyst, and a large solid mass. There was also above the umbilicus, a hemispherical tumour, about the size of an orange, projecting from the larger cyst. The case was judged fit for operation, though she was in a state of considerable debility, the feet and legs having been œdematous from the time of her confinement. I removed the tumour on the 23rd of April, in the presence of Dr. Graily Hewitt, Mr. Edwards, and Mr. Staples. The operation was performed in the manner described in the previous cases. There were extensive adhesions, and the ileum espe-

cially, was glued down to the cyst by a thick layer of organized lymph, in the firmest manner. There was great difficulty in separating it without injury to the intestine. When this had been effected, the cyst, which was very thick, was punctured and found full of offensive pus. The whole of the internal surface was in a state of ulceration. The solid portion of the tumour consisted chiefly of sebaceous matter. When drawn out, the pedicle was secured with a double ligature, as in the other cases. The wound was closed by silver sutures, and dressed by the cotton-wool pad and flannel bandage. This patient suffered from intense pain at the site of the adhesions, for four or five days, during which she was kept constantly under the influence of opium, chiefly administered by the bowels on account of sickness. There was no shivering or sign of peritonitis. The sutures were removed on the fifth and seventh days. At the end of three weeks, she was convalescent, and in a month left her lodging to return to her family. The ligatures came away in the seventh week after the operation.

Case 8.—*Fibro-cystic tumour of the left ovary, with ascites; tapping: ovariotomy: recovery.*

Eliza E—e, unmarried, æt. 26, was sent to me by Dr. Spencer Pratt, of Stamford. The swelling was first noticed about twelve months ago, on the left side. It gradually increased up to the time at which I first saw her. I tapped her in May, and removed fifteen quarts of dark grumous fluid. A solid tumour of considerable size could now be felt in the left iliac region. Pressure was applied, but the fluid reaccumulated, and I determined to tap and remove the tumour. The operation was performed June 14th, Dr. Koepl, physician to the King of the Belgians, Mr. Edwards, and Mr. Staples, being present. The ascitic fluid was let off, and an incision about five inches long, made in the abdominal wall, through which the solid tumour was drawn. The adhesions were slight, and easily broken down. A stout silk ligature was passed round the pedicle, and tied firmly. The artery of supply was felt beating strongly against the

ligature, and to make it secure, I passed another ligature round it, behind the first. The ends of the ligatures were cut off about a third of an inch from the pedicle. The pedicle was divided half an inch from the ligatures, and the whole allowed to drop into the pelvis. The wound was closed entirely by deep and superficial sutures, and the cotton-wool and bandage applied. This patient, under the care of Mr. Edwards, went on well from the first, and suffered very little pain. There was occasional sickness, which was allayed by ice. She took nourishment freely, beef tea, milk, &c., by the mouth and by the bowel. All the medicine administered was thirty drops of laudanum in divided doses. The catheter was used for three days. By the fifth day, all the ligatures were removed, and the wound had healed firmly by the first intention. She took a mutton chop and a glass of sherry sixteen days after the operation. Her recovery has been uninterrupted, and she now goes out daily in a Bath chair.

No inconvenience has been caused by the ligatures, or the stump of the pedicle. Both were, probably, encased in coagulated lymph at a very early period. If this plan can be followed, it will be a very great improvement both on the clamp, and the method bringing the ligatures out at the lower edge of the wound. Chloroform was used in all the cases, which were not selected ones, unless by selection is meant that the worst cases I have seen, were taken for operation. One observation I may be allowed to make. If I can judge from the eight cases, which are detailed in this and the paper formerly read to the Society, women in a feeble state of health, so that they are not absolutely broken down, bear the operation better than women in good health. Out of this number, I have lost but one, and she was, as already mentioned, by far the most robust of the whole. As bearing upon this idea, I believe it to be a fact, that the only two cases of the Cæsarian section, in which the patients have recovered in this metropolis, have been women who were enfeebled by advanced cancer of the uterus!

Mr. Spencer Wells thought the Society ought to congratu-

late the President on the successful result of the cases he had brought before them; for they must assist in overcoming the exaggerated fears of ovariotomy entertained by a large proportion of the profession. Of eight cases, only one had proved fatal. Of his (Mr. Wells') last eight cases, six had recovered, and remained well. Such a result as three deaths in sixteen cases was altogether unequalled by any other capital operation. Lithotomy in the adult, amputation of the thigh, excision of the knee-joint, ligature of any large artery, were far more fatal; the deaths after some of these operations equalling, and in some exceeding, the recoveries. He (Mr. Wells) thought the treatment pursued in the last case, with regard to the pedicle, quite unprecedented, and one which ought to be thoroughly discussed before it was imitated. The ligature had been cut off short, returned with the strangulated portion of pedicle into the abdominal cavity, and the wound closed. This was something more than a return to a procedure which had been of late years gradually abandoned. When the pedicle was tied, returned, and the ligature brought out through the wound, a channel was established for the escape of the dead putrid remains of the tissues strangulated by the ligature; but absorption of some of the putrid matter frequently occurred, and death from fever. The blood was poisoned as by injection of putrid animal matter. So the practice had arisen of keeping the strangulated portion of the pedicle outside the abdominal cavity by fixing it in the wound, whenever this could be done without too much traction upon the uterus; and this practice he (Mr. Wells) felt disposed to follow, unless further observation should prove that the plan which seems to have succeeded so well in this case may be followed with safety in other cases. The fact, however, though standing alone as it did, was of the greatest possible practical interest, and well deserved the attentive consideration of the Society.

Dr. Barnes also congratulated the President upon his remarkable success. He was anxious to make one observation upon the single fatal case. He understood that the patient, although apparently healthy, was found after death to have granular disease of the kidneys. He remembered, when a student of St. George's, that Sir Benjamin Brodie would warn against the performance of any severe operation not of imperative urgency when albuminuria existed. Where Bright's disease complicated a case operations were exceedingly liable to end fatally. He thought it desirable in all cases to examine the urine before undertaking so serious an operation as ovariotomy. With regard to the practice of returning the stump and ligatures into the abdominal cavity, he agreed that caution ought to be observed, but could understand that the very danger apprehended by Mr. Wells was much diminished by the parts being protected from the air. If

a stump was exposed to the air by being fixed externally, suppuration was inevitable; not so if returned into the abdomen, the wound being closed. There it might be at once surrounded by plastic exudation, all tendency to decomposition being arrested. Still it must be felt that the proceeding was not unattended by risk.

Mr. Baker Brown observed that the cases recorded were interesting in one or two points of view, and especially in reference to the use of opium, since in two of the cases related this drug had been given in large doses with marked benefit, whereas in the four cases formerly recorded little or no opium had been given. From these facts we might understand that each case must be treated according to its individual symptoms, and this point was fully borne out by the cases related by other observers. Pain was a greater physiological evil than the effects of opium. Mr. Brown thought that the unilocular case, where the disease was confined to the broad ligament, was not a case where extirpation should have been attempted—at any rate previous to the trial of tapping and pressure, or tapping and the injection of iodine, by either of which plans the disease would probably have been treated successfully. Mr. Brown observed that daily experience must satisfy every unprejudiced mind that ovariotomy was an operation more successful than any great operation of surgery, and that all the old objectors must give way.

Dr. Routh believed, after having seen several cases of ovariotomy that the plan of leaving the cut pedicle and ligature within the abdomen was very hazardous. Experiments on animals had shown that putting a piece of dead matter, even if fresh, into the abdomen, led to the development of putrid fever. That portion of pedicle between the ligature and the cut end was to all purposes dead matter. He took exception to Dr. Barnes' belief, that albuminuria was a bar to the operation. These cases, owing to the pressure of the cystic mass, obstructed circulation, and hence gave rise to albuminuria. He (Dr. Routh) would also ask Dr. Smith upon what grounds he advocated the removal of monolocular ovarian tumours, seeing all other operators advocated, and success confirmed, the practice of iodine injections.

Dr. Tyler Smith, in reply, said he had never opposed the employment of opium after the operation when the pain was severe. What he had contended against was the indiscriminate use of opium for many days after the operation, in all cases. Three out of the four cases were polycystic. Future experience must decide whether the stump could safely be returned into the abdomen. The case related must be taken as a single fact, but he believed the peritoneum threw out defensive lymph with extraordinary rapidity after the operation.

IS THE ERGOT OF RYE, WHEN ADMINISTERED TO THE MOTHER DURING LABOUR, DANGEROUS, OR NOT, TO THE LIFE OF THE CHILD? A PRACTICAL INQUIRY.

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"Thou com'st in such a questionable shape, that I will speak to thee."—
Shakespeare.

In the year 1853, I published a statistical report of the circumstances attending the births of 2106 children in my practice.[1] Of those children, 74, or 1 in about 28½ were still-born from various causes, and in the enumeration of those causes, I had occasion, or thought I had occasion, to report that one of the 74 dead-born children had been destroyed "probably by ergot." Upon this I received, from several medical gentlemen, letters urging upon me a study of the subject, and endeavouring to impress it upon me that the ergot of rye was a dangerous medicine to give to a woman in labour, and especially dangerous to the life of her unborn child. For my own part, although I had recorded the incident in the manner stated, I could not feel satisfied that that one solitary fact, doubtful at the best as it certainly was, could fairly or logically be held to prove, or even to corroborate, the doctrine that ergot of rye is destructive of the life of the *fœtus in utero*, especially when I reflected that I had given that drug in at least 300 cases on the whole number reported. It was true that I had preserved no notes of the details of those cases so far as respected the use of ergot in them; but I had appended the word "ergot" to the entry in my register of each case in which I had given the drug, so that I was at least able to count the cases up, to the number, as I have said, of 300.

[1] 'Association Medical Journal,' July 29th, 1853.

Moreover, any little doubt I might feel on the point was effectually dispelled by what I may fairly call the *demonstration* furnished by the following case of twins,[1] which came before me in September, 1853, and therefore very soon after the publication of the report I am speaking of:

"Finding on my arrival that the os uteri was in a thick, rigid, and undilatable state, I waited a few hours without doing anything. I then, when the os was in a more favorable condition, gave a full dose of ergot, because the pains were very inefficient. In an hour, the child was born—dead. Now, the pains had been anything but continuous; on the contrary, the intervals were unusually long and complete; that between the two last pains which attended the expulsion of the head having been at least five minutes in duration. The child had every appearance of having been alive up to the time of birth, and though there was no pulsation in the funis, yet the umbilical vessels felt full. This, then, thought I, must be an example of the *specific* bad effect of the ergot. But, when the child was removed, placing my hand on the abdomen of the mother, I found there was another child. And in a quarter of an hour a second child was born *footling*, very lively and vigorous."

Now, surely in this case, any specific deleterious influence of the ergot must have been experienced by both children, and more by the one born alive than by the one born dead, in proportion to the greater length of time during which the latter was exposed to it; but, if it had not been for the significant fact that one of the children came into the world alive and vigorous, I should certainly have recorded the still-birth of the dead-born child as "probably from ergot."

In the following January, however, I met with another case of still-birth, which was so suspicious, that I determined on studying the subject with some definite system. I, therefore, commencing with the first of that month, and consequently including in my projected series the suspicious

[1] Reported in 'Association Medical Journal,' March 3rd, 1854.

birth just mentioned which happened on the 13th, arranged a tabular form in which I might briefly record what I thought would be all the essential particulars of every case in which I might thenceforward administer a dose of ergot of rye to a woman in labour. Thus, in so many columns I gave—(1) *the date;* (2) *the number of the case,* as an ergot case; (3) *the number of the case as it stood in my general register,* in order that the proportion of ergot to non-ergot cases might at once be seen; (4) *the state of the os uteri, when the medicine was given;* (5) *the interval between the administration of the dose and the birth of the child;* (6) *the condition of the child immediately after its birth;* (7) *whether the funis was or was not twisted round the neck of the child,* for that circumstance had been insisted on by one of my correspondents, as exerting a very material influence on the safety of the child; (8) *the character of the pains induced;* (9) *the peculiarities of the case, if any;* and lastly (10) *the result as regarded the puerperal state of mother.*

When I had tabulated 69 ergot cases on this plan, on a total of 280 labours attended between January 1st, 1854, and November 30th, 1855, I published a paper[1] containing a copy of the table and giving the results. Those results as far as the life of the child was concerned were as follows:

On the whole number of 69 cases in which the ergot was given, there were 9 still-births, viz., in cases 2, 5, 16, 19, 23, 33, 39, 56, 67.

At the first blush, this number of 9 still-births out of 69 cases, 1 in 8 nearly; seems a very large proportion, but when they come to be critically examined, it will be seen that most of them are explicable without it being necessary to accuse the ergot at all; and when they come to be compared with the series of cases which immediately followed them, and which will form more strictly the subject of the present paper, it will, I think, be evident that I had simply been unlucky in the period selected for the

[1] 'Medical Times and Gazette,' Dec. 22nd, 1855.

commencement of my inquiry, or, which comes to the same thing, that I had been in too great a hurry to conclude it.

From this list, then, of 9 still-births we may at once eliminate cases 19 and 33, the *putridity* of the fœtuses in those two cases having sufficiently proved that they were dead before the labour commenced. Cases 5 and 39 must also be eliminated; they were attended with considerable *hæmorrhage* during, or immediately preceding the labour, a circumstance of itself quite sufficient to account for the death of the children. In case 67, one of feet presentation, the death of the child was undoubtedly caused by *compression of the funis,* during the very difficult delivery of an enormous hydrocephalic head. Four still-births thus remain to be accounted for, viz., in cases 2, 16, 23, and 56. Now, the French Academy of Medicine, in criticising my paper, makes the ergot responsible for all those four deaths, as does also M. Deville of Paris in his memoir, to be presently referred to. Let us examine the details of those cases that we may see whether they are, all of them, fairly and justly to be so explained.

Case 2.—I abandon at once, there having been in it no other *demonstrable* cause of death. It resembles, in short, the case of twins already reported in this paper, so far as regards the death of the first-born of them, with this exception, that in the present case the child was not quite dead at birth; its heart and funis were pulsating, and it gasped once. But, as I have said, I give up Case 2; I cannot explain it when I compare it with the other cases in this report. In Case 16, a primiparous case, we had the same long intervals between the pains as the table records for Case 2, and the woman was much longer under the influence of the medicine: the head lay for an hour on the perinæum, and when the trunk of the child was expelled, it was found that the shoulder had dragged down the funis along with it. Now, that shoulder had a very congested appearance, as if it had been squeezed against something; and I incline to the opinion that during the lengthened period that the head was resting on the perinæum, a position from which it was at length

released by means of the vectis, the funis was compressed in that situation, between the shoulder and the brim of the pelvis, so as to stop its circulation. On this view, therefore, we have, to say the least of it, a plausible explanation of the death of the child without the necessity of accusing the ergot. I think, moreover, that I delayed the use of the vectis too long; earlier delivery would have abridged the duration of that latent compression of the funis, and might have saved the child's life. In Case 23, the mother was, and had been for some weeks, in a very bad state of health from excessive œdema; the labour was unusually severe and difficult in consequence, and the fœtal head was much compressed during the dilatation of the very rigid os and cervix uteri—made more rigid by œdema; besides all which, the labour was at last completed with the vectis. There were surely in that case other causes of danger to the life of the child than the ergot—disease of mother, a hard rigid labour, instrumental delivery. In Case 56, the child was destroyed by cerebral congestion caused by pressure in a severe instrumental primiparous labour. Do the cases just referred to, when compared with the large number remaining, in which, under almost every variety of circumstance usually regarded as unfavorable for the administration of ergot, and with a duration of the labour process after that medicine was given varying from a quarter of an hour to four or five hours, the child was born alive and more or less lively and vigorous, *prove* anything whatever against the ergot of rye? I certainly think not. Neither do I think that the solitary case No. 2 *proves* anything, when it is fairly compared with the case of twins I have referred to, in which, whatever might have been the cause of death, it certainly could not have been the ergot.

Such was the summary of my report, and such the substance of my comments upon it. I thought I had reported all that was essential to be known, but I shortly afterwards read, in a review of my paper which was published in a French medical journal,[1] the remark, that I ought to have

[1] 'Gazette Hebdomadaire,' 16 Mai, 1856.

given my readers an opportunity of comparing my non-ergot cases with my ergot cases; which, in the present paper, I propose to do (Table II). I also found that I had made another omission, which will be found supplied in this paper; for the reviewer expresses the opinion that the immunity of my saved children was probably due to the circumstance that, because the os uteri was frequently nearly closed and rigid when the ergot was given, the child was *therefore* protected from pressure by the presence of the liquor amnii; the fact being that, in most of those cases, I had actually ruptured the membranes before giving the medicine, having very early in practice observed that it seldom exerted its full influence until after the waters were let off; so that the safety of the children was, by the reviewer, attributed to their protection from a kind of pressure from which they were most certainly not protected. I have, therefore, in the present table of cases inserted a column giving those particulars about the *liquor amnii*, the omission of which from my former paper led the French reviewer into so great a mistake.

I must here be allowed to point out that this mistaken explanation of the reviewer is singularly in contradiction to the received doctrine; it being almost universally urged that ergot can be safely given only when the os uteri is either very dilatable or is already fully dilated.

In February, 1859, a memoir[1] was read before the French Academy of Medicine, in which the author maintained that ergot was *always dangerous to the life of the child*. The writer, commenting on my paper, expressed his doubt of my veracity; my results being, as he thought, too favorable to be true, although he distinctly accuses the ergot of having destroyed the four children whose cases I have just been commenting on.

An official report on Deville's Memoir[2] expresses the

[1] "Recherches statistiques sur l'action du Seigle ergoté dans la Parturition," par M. Deville. ('Gazette Hebdomadaire,' 22 Juillet, 1859.)

[2] "Rapport de MM. P. Dubois, Depaul, et Danyau." ('Bulletin de l'Académie Impériale de Médecine,' tome xxiv, pp. 893—904.)

opinion of an Academical Commission, that his statistics are too vague and insufficient to be perfectly demonstrative, while mine, which Deville makes too light of (*s'y arrête à peine*), command confidence, inasmuch as they contain, with only one omission, all the particulars, the absence of which from Deville's renders his unsatisfactory. But this Commission, so far from thinking, with Deville, that my statistics are favorable, contends for the contrary, in a paragraph which, as it throws down the gauntlet taken up by me in the present paper, I must entreat permission to quote in this place:

"Que nous importe après tout le chiffre proportionnel des enfans mort-nés après l'administration du seigle ergoté? N'est-il pas demontré par la statisque du docteur West lui-même que l'ergot peut tuer; et quand ce ne serait, comme il résulte de ses chiffres, que dans la proportion d'un dix-septième, ne serait-ce pas beaucoup trop encore? D'ailleurs, n'est-ce pas pur hasard si la proportion n'a pas été plus considérable, et qui sait si dans une autre série de pareil nombre d'expériences instituées de la même manière, elle ne serait pas beaucoup plus forte? Elle pourra être moindre encore, dira-t-on, entre des mains très prudentes et très habiles; d'accord. Mais entre des mains que ne seront ni habiles ni prudentes, le chiffre ne s'élèvera-t-il pas infailliblement?" &c., &c.

The upshot of the Academical Report is briefly this—that, although Deville has not proved demonstratively what he asserts, viz., that ergot is *always* dangerous to the life of the child, yet it may be *sometimes* dangerous, and that my statistics prove it. But surely, before the latter proposition can be fairly maintained, it must be necessary to prove that all the four cases debited both by Deville and the Academical reporter, Danyau, to ergot, were really destroyed by ergot, and by nothing else; of which, in the nature of things, we cannot have demonstrative proof.

In the Academical Report I am taken so roundly to task for having omitted to record the *fœtal pulsations* in my cases—the "one omission" to which I have already alluded as being the only exception, according to the report, to the

satisfactory completeness of my tables—that I feel it necessary to make a few remarks in my justification. In the first place, I really did not think of it; in the second place, I will prove presently that such an investigation would have been utterly useless for the purpose intended; and, in the third place, I do not believe that in private practice the patients would submit to the use of the stethoscope in sufficient numbers to enable the attendant to arrive at any general conclusions. Their terror, too, at the sight of the instrument, would probably cause a complete suspension of their pains.

Although, then, I have not myself used the stethoscope in my ergot cases, I am enabled to produce important evidence, from facts recorded by others, of the absolute inutility of watching the fœtal pulse for the purpose of determining the amount of blame attributable to the ergot in producing the modifications observed. I place in parallel columns a few extracts from notes of certain cases recorded in Johnston and Sinclair's work,[1] from which the reader may see not only that precisely similar modifications of the fœtal pulse were observed in cases where ergot had not been given as in cases where it had, but also that, for that reason, the ergot is unfairly condemned. This evidence is the more unexceptionable as it is furnished by witnesses who are not at all unwilling to lay the blame on ergot. Not only, be it observed, are the symptoms noted the same, but the language used in describing them is almost identical.

Without ergot.	With ergot.
Effects of *continuous pains.*	
No. 120. *Craniotomy group.*—"Tedious in both stages, especially in the first. The head descended low in the pelvis, but the pains became inefficient, though constant, and the fœtal heart was affected. The forceps were applied, but could make no impression. After several attempts the heart was found to have ceased, &c." Page 264.	No. 160. *Forceps group.*—"..... Ergot failed to excite sufficient action, but affected the fœtal circulation by causing continuous contraction. The forceps were applied at once. ..... Mother and child went out well." Page 220.

[1] 'Practical Midwifery,' by E. B. Sinclair, A.B. T.C.D., and George Johnston, M.D. Dublin, 1858.

Without ergot.	With ergot.
Effects of *continuous pains*.	
No. 125. *Craniotomy group.*—"A case very similar to the one above (No. 120), except that the first stage was very short ..... and here too the pains were continuous, and the fœtal heart became extinct, &c." Page 265.	No. 151. *Forceps group.*—"..... Ergot was subsequently given, and the forceps used to save the child whose heart was becoming affected under the influence of the continuous contractions of the uterus. Both mother and child went out well." Page 218.
Heart becoming *weak*.	
No. 109. *Forceps group.*—"..... The fœtal heart becoming weak, the forceps were used and the child extracted ..... but respiration could not be established, &c." Page 208.	No. 101. *Forceps group.*—"..... Ergot was given and repeated ..... and as the fœtal heart became weak, the forceps were at once adjusted..... The child cried feebly at birth, but it only lived an hour." Page 206.
No. 56. *Forceps group.*—"..... The fœtal heart getting weak, the forceps were used ..... but respiration could not be established." Page 193.	No. 87. *Forceps group.*—"..... Inertia had yielded to ergot, &c. ..... the fœtal heart became weak.....and a healthy girl, weighing 9½ lbs., was extracted." Page 202.
Heart getting *quicker*.	
No. 24. *Tedious-labour group.*—"..... The fœtal heart quite audible in the mesial line, and beating 144 in the minute ..... the fœtal heart had become weaker and increased to 152. ..... The child's respiration was with difficulty maintained, &c." Page 153.	No. 18. *Craniotomy group.*—"..... Ergot was given and repeated ..... the fœtal heart having become rapid .....forceps used.....&c." Page 254.
No. 44. *Breech-presentation group.*—"..... and the fœtal heart beat at the rate of 156 per minute, &c." Page 96.	No. 9. *Tedious-labour group.*—"..... at 10 a.m. a dose of ergot..... at half-past 11 a.m. fœtal heart was 150, but not so strong as at last examination. At a little after 2 o'clock a living girl was delivered, &c." Page 143.
Heart getting *slower*.	
No. 59. *Forceps group.*—"..... It was found that the fœtal heart had become slow and weak, so the forceps were put on, and a girl delivered, which did well." Page 194.	I do not find in any of the groups of cases any mention made of the fœtal heart having been observed to become slow after ergot had been given. In the following *forceps* case, however, —No. 13. "The fœtal heart was pulsating slowly at birth, but all attempts at resuscitation failed." Page 180. Query, had it become slow *in utero?*
No. 76. *Forceps group.*—"..... By the time the head was all but on the perinæum, the discharge was found olive-coloured, and the fœtal heart slow. The forceps were put on, and a boy delivered, which breathed immediately." Page 199.	Now, it is further recorded of this case that during the labour the fœtal heart, which had been heard the night before, could not be detected. So that as the heart *was* beating at birth, the evidence afforded by the stethoscope could not have been true.

The extracts quoted above must suffice to show that all the dangerous modifications of the fœtal circulation revealed by auscultation are quite as likely to occur without, as with ergot, while, as in the last case quoted, it may happen that the stethoscope cannot be depended on as telling the truth. It seems, indeed, that we are by no means reduced to the necessity of accusing the ergot simply because the fœtal heart may have been affected prior to the birth of a dead child, there being other causes capable of producing the effects in question, of which certainly ergot is not the most dangerous. Compare the two parallel cases, Nos. 120 and 160, the former, *without* ergot, resulting in a dead child (*dead before craniotomy*)—the latter, *with* ergot, in a living one. The same of the next three pairs of cases.

And now I beg leave to introduce to the notice of the Society the statistics I have accumulated subsequently to the publication of my paper in the 'Medical Times and Gazette.' Following, as they do immediately, that series of sixty-nine cases, it will now be understood that they constitute more than an acceptance of the challenge held out to me by Danyau towards the end of his report on Deville's Memoir—"*who knows whether in a further series of a like number of cases observed in the same manner,* the mortality might not be greater?" and so forth:—for, instead of being merely a report of a *like number of cases*—69, these supplementary tables give the details of 173 cases in which the ergot was administered.

TABLE I.—*A Table of Cases in which the Ergot of Rye was administered published in the 'Medical Times and Gazette,' December 22nd,*

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1855								
Dec. 23	70	2442	P.	Crown-piece; dilatable	First cranial	Yes; a few minutes	Good ergotic pains	1 hour
Dec. 25	71	2443	P.	Crown-piece; dilatable	First cranial	Yes; half an hour	Good pains, but with long intervals to the last	1¼ hour
Dec. 26	72	2444	M.	Half-a-crown; dilatable	Second cranial	Yes; just before	Violently ergotic in ten minutes	45 minutes
Dec. 30	73	2445	M.	Crown-piece; thick, and rather rigid	Second cranial	Yes; just before	Ergotic, but not satisfactory	3 hours after first dose; 1 hour after second
1856								
Jan. 9	74	2449	M.	Crown-piece; dilatable	First cranial	No	Ergotic for the last three quarters of an hour	1 hour
Feb. 6	75	2457	P.	Shilling; rigid	Second cranial	Yes; 2 hours	Ergotic for the last three or four hours	6 hours
Feb. 14	76	2458	M.	Half-a-crown; thick; very rigid	Second cranial	Yes; just before	Ergotic for the last two hours	6 hours
March 13	77	2467	P.	Half-a-crown; thin; dilatable	First cranial	Yes; just before	Ergotic for half an hour	1 hour
March 20	78	2469	M.	Dilated	Second cranial	Yes; half an hour	Ergotic at once	15 minutes
April 1	79	2472	M.	Shilling; thick; rigid	First cranial	Yes; just before	Ergotic after second dose	4 hours

during Labour. This Table, being in continuation of that which was 1855, *and in which* 69 *Cases were reported, begins with No.* 70.

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	Yes	Languid pains on arrival. Æt. 19	No bad symptoms.
Girl; lively	No	Had had slow, grinding pains for twenty-six hours. Æt. 27	No bad symptoms.
Girl; respiration suspended half an hour; then lively	Yes	Head high above pelvis, with redundant liquor amnii	Diarrhœa with pain and soreness of fundus uteri for three or four days; pulse 120, hard. Good recovery after.
Boy; very lively; a very large child	Yes; twice	Little or no pain on arrival. Had had irregular pains for three or four days. Head very high, with redundant liquor amnii, and great *ballottement*. Head not descending into pelvis, when the os uteri was well dilated. I turned and delivered footling. She had two doses of ergot	Diarrhœa with pain and flatulence for two or three days; pulse unaffected. Good recovery after.
Girl; lively	No	Languid pains	No bad symptoms.
Girl; lively	No	Had had languid pains for many hours, with no effect on os uteri	No bad symptoms.
Girl; lively	No	Languid pains for many hours. Os uteri became dilatable two hours after the ergot was given	No bad symptoms.
Girl; lively	No	Languid pains	Feverish during first week, with quick pulse and slight abdominal tenderness. Good recovery.
Boy; lively	No	Pains inefficient	No bad symptoms.
Girl; lively	No	Labour commenced with hæmorrhage to considerable extent. No pains on arrival. Hæmorrhage ceased on rupture of membranes. Two doses of ergot given	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1856 April 6	80	2473	M.	Dilated	First cranial	Yes; half an hour	Ergotic in ten minutes	1 hour
April 8	81	2475	P.	Shilling; thin; rigid	First cranial	Yes; just before	Speedily ergotic	2 hours
April 13	82	2478	P.	Half-a-crown; thin; dilatable	Second cranial	Yes; just before	Very ergot	2½ hours
April 25	83	2486	M.	Dilated	First cranial	Yes; half an hour	Ergotic, but useless until bladder was emptied	1½ hour
April 27	84	2488	M.	Dilated	Fourth cranial	Yes; 1 hour	Ergotic during last fifteen minutes	30 minutes
May 17	85	2495	M.	Half-a-crown; dilatable	First cranial	Yes; just before	Rapidly and violently ergotic	45 minutes
May 19	86	2497	M.	Crown-piece; very dilatable	Second cranial	Yes; half an hour	Improved, but not ergotic	1 hour
May 24	87	2500	M.	Crown-piece; dilatable	First cranial	Yes; 10 minutes	Improved, but not ergotic	1 hour
May 29	88	2503	M.	Dilated	First cranial	Yes; half an hour	Ergotic	45 minutes
June 3	89	2505	M.	Palm of hand; dilatable	Second cranial	Yes; 10 minutes	Ergotic	45 minutes
June 15	90	2512	M.	Dilated	First cranial	Yes; an hour	Ergotic	20 minutes
June 19	91	2514	M.	Half-a-crown; soft, and dilatable	First cranial	Yes; just before	Slight pains came on 2 hours after, but soon left her again	7 hours
July 2	92	2519	P.	Crown-piece; very dilatable	Second cranial	Yes; 10 minutes	Almost a failure; first dose entirely so	5 hours; 1 hour after second dose
July 7	93	2523	M.	Dilated	First cranial	Yes; a few minutes	Pains improved; but not ergotic	1 hour

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	No	Languid pains. Violent post-partum hæmorrhage after last confinement. None this time	No bad symptoms.
Girl; lively	No	Languid pains	No bad symptoms.
Boy; lively	No	Languid pains. Completed delivery with vectis	No bad symptoms.
Boy; lively	No	Languid pains. Head delayed in descent by full bladder	No bad symptoms.
Boy; lively	No	Feeble pains. Face at pubes. Rectified the position after the nose had been felt at the pubes.	No bad symptoms.
Boy; lively	No	Very languid pains	No bad symptoms.
Girl; lively	No	Languid pains, until improved by ergot	No bad symptoms.
Girl; lively	Yes	Very languid pains, with very long intervals	No bad symptoms.
Boy; lively	No	Languid pains	No bad symptoms.
Boy; lively	Yes	Languid pains	No bad symptoms.
Boy; lively	Yes	Languid pains	No bad symptoms.
Girl; lively	No; but prolapsed during delivery of breech. There was a single knot on it	No pains on arrival. Os uteri nearly closed, thick and rigid. Waited seven hours, and the os uteri being improved, I ruptured membranes, and gave ergot, which having failed in inducing satisfactory pains, I turned the child and brought it away by the feet, after waiting other seven hours. The placenta was adherent	Half an hour after delivery there was a fit of hysterics, with slight twitchings of face, but without loss of consciousness. After that no bad symptoms. She never had a better recovery.
Boy; lively	No	Uterine action very imperfect, both before and after ergot, of which two doses were given. Difficult delivery with forceps. There was considerable post-partum hæmorrhage	She was feverish, with pulse 120 sharp, and had diarrhœa during first week; and in the fourth week had slight phlegmasia dolens, from which she soon recovered.
Boy; lively	Yes	Frequent languid pains	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1856 July 13	94	2528	M.	Crown-piece; dilatable, but thick and spongy	Second cranial	Yes; 4 hours	Ergotic after 10 minutes	1½ hour
July 19	95	2531	M.	Half-a-crown; dilatable	First cranial	Yes; a few minutes	Ergotic after 10 minutes	1¾ hour
July 27	96	2537	M.	Crown-piece; thick, and rather rigid	Second cranial	Yes; 20 hours	Pains began to improve in an hour; ergotic during last half hour	3¼ hours
Aug. 4	97	2540	M.	Crown-piece; thick, and rigid	First cranial	Yes; quarter of an hour	Pains good during last half hour	2½ hours after first dose; 1¼ hour after second
Aug. 16	98	2546	M.	Crown-piece; thick, but favorable	Second cranial	Yes; a few minutes	Very ergotic during last half hour	1¼ hour
Aug. 18	99	2547	P.	Dilated	First cranial	Yes; many hours	Pains still unsatisfactory, though improved	1 hour
Aug. 22	100	2549	M.	Half-a-crown; thin, and rigid	Second cranial	Yes; 7 hours	No pains until after the lapse of 1½ hour; then good and ergotic	3 hours
Sept. 15	101	2559	M.	Dilated	First cranial	Yes; a few minutes; very redundant	Very little effect produced	1 hour
Sept. 21	102	2563	M.	Dilated	First cranial	Yes; some hours; redundant	No effect	1 hour and 10 minutes
Sept. 22	103	2564	P.	Half-a-crown; thin, dilatable	Second cranial	Yes; some hours	Ergotic	2 hours
Oct. 13	104	2568	M.	Crown-piece; dilatable	First cranial	Yes; 1 hour	Improved	70 minutes
Oct. 24	105	2572	M.	Crown-piece; dilatable	First cranial	Yes; just before	Ergotic	1 hour
Oct. 27	106	2573	M.	Half-a-crown; dilatable	First cranial	No; but just after	Ergotic	2 hours

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Boy; very lively	No	Languid pains	No bad symptoms.
Boy; very lively	No	Pains had begun very fiercely, and, after lasting so two hours, had become altogether suspended fully an hour and a half before my arrival	No bad symptoms.
Girl; lively	No	Almost entire absence of pains	No bad symptoms.
Boy; lively	No	A very lingering case. Two doses of ergot given	No bad symptoms.
Girl; lively	No	Very languid pains. Completed delivery with vectis	No bad symptoms.
Boy; lively; head much elongated	Yes	Had been several hours under the care of a midwife. Completed delivery with vectis	No bad symptoms.
Girl; lively	No	Liquor amnii escaped without pain at 6 p.m. Saw her at 9½. No pains. Ergot at 10. Birth at 1 a.m.	No bad symptoms.
Boy; lively	No	Pains temporarily suspended through mental disquietude	No bad symptoms.
Girl; lively	Much twisted about body	A very tedious case. As no effect was produced by the ergot at the end of an hour and five minutes, I turned and delivered footling	Considerable post-partum hæmorrhage during about three hours. Good recovery.
Girl; lively; head large and much ossified	No	Had been fourteen hours in labour, with unsatisfactory pains. Completed delivery with forceps, having a hard pull with them	No bad symptoms.
Girl; lively	No	Had been many hours in labour. Completed delivery with vectis	No bad symptoms.
Girl; lively	No	Labour had commenced with a gush of hæmorrhage; little or no pain until ergot acted. Hæmorrhage ceased on rupture of membranes	No bad symptoms.
Boy; lively.	Yes	Languid pains. Completed delivery with vectis	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child
1856 Oct. 29	107	2574	P.	Fully dilated	First cranial	Yes; some minutes	Quite ergotic	45 minutes
Nov. 2	108	2576	M.	Half-a-crown; rather rigid	First cranial	Yes; just before	Quite ergotic	1½ hour
Nov. 6	109	2577	M.	Dilating and favorable	First cranial	Yes; a few minutes	Speedily ergotic	40 minutes
Nov. 10	110	2579	M.	Dilated	First cranial	Yes; just before	No effect	10 minutes
Nov. 25	111	2586	M.	Dilating	First cranial	Yes; a few minutes	Speedily ergotic	15 minutes
Dec. 2	112	2587	P.	Crown-piece; thin, rather rigid	Second cranial	Yes; half an hour	Speedily ergotic	80 minutes
Dec. 10	113	2588	M.	Half-a-crown; thick, and rather rigid	First cranial	No	Speedily ergotic	2½ hours
Dec. 12	114	2590	M.	Crown-piece; dilatable	Second cranial	No	Long intervals to the last	1½ hour

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Boy; lively; very large head, much elongated	Yes	Completed delivery with vectis	No bad symptoms.
Girl; lively	No	Completed delivery with vectis. Delivery easy	No bad symptoms.
Boy; lively	No	Had had languid pains with long intervals for two or three days	No bad symptoms.
Boy; lively	No	Suspension of pains on my arrival. Ruptured the membranes and gave a full dose of ergot. The liquor amnii was redundant. Ten minutes after, when making an examination, I felt a coil of the funis lying between the occiput and the side of the pelvis. I immediately turned and delivered, thus most probably saving the life of the child. It was a case of latent prolapsed funis which might have easily escaped notice	No bad symptoms.
Boy; lively	Yes	I gave the ergot this time, thinking the patient would have less after-pain than she had had in her previous labours, and I think the effect was favorable	On the ninth day a rigor followed by fever and headache; no abdominal pain. A second rigor coming the next day, I gave large doses of quinine, and she had no further return.
Boy; lively	Yes	Had had pains for more than twenty-four hours. Head descending with difficulty, I completed delivery with vectis	She had quick pulse, with pain in left groin and other symptoms threatening phlegmasia dolens during first week; but they passed away under suitable treatment. Good recovery.
Boy; lively	No	Good pains came on at 2 a.m. At noon weaker and less frequent, when I gave the ergot. Labour retarded towards completion of dilatation by full bladder. After the bladder was emptied, she had only two pains	No bad symptoms.
Boy; lively	No	I found it useful in this case also to empty the bladder	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1856 Dec. 18	115	2594	P.	Florin; unfavorable. With second dose, three inches diameter; favorable	First cranial	No	Good intervals; ergot acted very feebly	4¼ hours from first dose
1857 Jan. 12	116	2603	M.	Florin; unfavorable	First cranial	Yes; 3¼ hours	Scarcely any effect from ergot. No pains except when excited by examination	3 hours from first dose
Jan. 25	117	2605	M.	Good dilatation; dilatable	Second cranial	Yes; half an hour	Very little ergotic effect	70 minutes
Feb. 11	118	2610	M.	Crown-piece; rigid	First cranial	Yes; just before	Ergotic	1 hour
Feb. 17	119	2614	P.	Dilating very favorably	First cranial	Yes; ten minutes	Ergotic for about five minutes	15 minutes
Feb. 20	120	2616	M.	Dilated	First cranial	Yes; just before	Scarcely any effect until the last five minutes	1½ hour
March 6	121	2622	M.	Dilatation nearly complete	First cranial	Yes; just before	Never ergotic	40 minutes
March 6	122	2623	M.	Crown-piece; dilatable	Second cranial	Yes; just before	Ergotic	40 minutes
March 18	123	2628	M.	Well dilated	Second cranial	Yes; half an hour	Ergotic at the end of half an hour	1¼ hour
March 24	124	2630	M.	Crown-piece; lumpy and unfavorable	First cranial	Yes; two hours	Very good effect after the bladder was emptied	1 hour

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	No	Gave a second dose two hours after the first. Completed delivery with vectis. Large moulded head	No bad symptoms.
Girl; lively	Twisted round the foot, which was drawn down	Liquor amnii escaped without pain at 6 p.m. Arrived at 9. She had no pains. Gave a dose of ergot at 9·15. No effect except to make os uteri more dilatable. At 10·30 gave a second dose of ergot. No effect. I could now get three fingers within the os. At 12 I passed up my hand, seized a foot, and delivered, being tired of waiting.	No bad symptoms.
Girl; lively	Yes	The pains, which had been brisk, had become feeble and inefficient	No bad symptoms.
Boy; very lively	No	Delivered with vectis; vectis applied before the head had cleared the os uteri. Very large head	No bad symptoms.
Boy; lively	No	A very easy primiparous labour. Ergot given experimentally	No bad symptoms.
Boy; lively	No	No pains whatever on my arrival	No bad symptoms.
Boy; lively	No	Had been many hours in labour	No bad symptoms.
Girl; lively	No	Very languid pains	No bad symptoms.
Boy; lively	Yes	Very languid and tiresome pains	No bad symptoms.
Boy; lively	No	At 8 a.m. she having been all night in labour, I found the os uteri dilated size of half-a-crown, thick and lumpy; head high and floating in redundant liquor amnii. I ruptured the membranes. Waited two hours for pains and then gave a dose of ergot. The head appearing to be delayed in descent by a full bladder, I drew off the urine, after which the pains became effective	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1857 March 25	125	2631	M.	Well dilated	First cranial	Yes; 10 minutes	Speedily ergotic	30 minutes
April 6	126	2637	P.	Well dilated	Second cranial	Yes; half an hour	Became more frequent	1 hour
April 23	127	2643	M.	Half-a-crown; dilatable	Second cranial	Yes; an hour	Good effect for two hours, and then the pains ceased again	3 hours 20 minutes
May 16	128	2650	M.	Dilated	Second cranial	Yes; 10 minutes	Ergotic for last half hour	55 minutes
May 19	129	2651	M.	Half-a-crown; dilatable	First cranial	Yes; just before	Speedily ergotic	75 minutes
May 24	130	2654	M.	Crown-piece; thick, rigid	First cranial	Yes; 6 hours	Ergotic in half an hour	55 minutes
June 10	131	2657	P.	Crown-piece; thin, rigid	First cranial	Yes; half an hour	Ergotic in half an hour	2 hours
June 17	132	2660	M.	Dilating	First cranial	Yes; 10 minutes	Soon ergotic	50 minutes
June 19	133	2661	M.	Half-a-crown; dilatable	First cranial	Yes; 9 hours	Ergotic in ten minutes	1 hour
July 16	134	2671	M.	Three inches diameter; dilatable	First cranial	Yes; 12 hours	Ergotic in ten minutes	50 minutes
Aug. 23	135	2681	M.	Florin; dilatable	Second cranial	Yes; just before	Good in fifteen minutes	50 minutes
Sept. 1	136	2686	M.	Crown-piece; thin, rigid	First cranial	Yes; 10 minutes	Ergotic, and continuous, in ten minutes	45 minutes
Sept. 21	137	2692	M.	Half-a-crown; thin, dilatable	First cranial	Yes; 5 minutes	Ergotic in a quarter of an hour	2 hours and 10 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	Yes	Languid pains	No bad symptoms.
Boy; lively	No	Infrequent pains	No bad symptoms.
Boy; very lively	No	Inefficient pains for many hours. Head very high; held up by full rectum and bladder. Emptied both. Head began to descend on os uteri; but finding, three and a quarter hours after giving ergot, of which I gave two doses, that the pains were again becoming unsatisfactory, I turned the child and brought it away	No bad symptoms.
Boy; lively	Yes	Uterine action completely suspended, after having gone on for four or five hours	No bad symptoms.
Boy; lively	Yes	Feeble pains	No bad symptoms.
Girl; lively	Yes	Very inefficient pains	No bad symptoms.
Boy; lively	No	At 2 a.m. os uteri thin, very rigid, size of groat. Pains very frequent, and tolerably strong. Gave a full dose of laudanum and waited six hours. At 8 a.m., pains having never ceased, I found the os uteri in just the same state. I now forced two fingers through the os, rupturing the membranes, and forcibly dilating until four fingers were admitted. I then gave a dose of ergot, continuing the artificial dilatation.	No bad symptoms.
Boy; lively	No	Pains became languid after my arrival, from timidity	No bad symptoms.
Boy; lively	Yes	Very languid pains	No bad symptoms.
Girl; lively	No	Pains very languid and infrequent	No bad symptoms.
Boy; lively	No	Had had inefficient pains twelve hours	No bad symptoms.
Girl; lively, but rather livid for a few minutes	Yes	Labour commencing with hæmorrhage	No bad symptoms.
Boy; lively. Head much squeezed and elongated. The child a very large one	Yes; very tightly	Second labour. Her first labour, also an ergot case, No. 58, was easier than the present	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1857 Sept. 30	138	2694	M.	Palm of hand; dilatable	First cranial	Yes; just before	Speedily ergotic	25 minutes
Oct. 2.	139	2695	M.	Palm of hand; dilatable	Second cranial	Yes; 3 hours	Very ergotic	50 minutes
Oct. 5	140	2696	M.	Diameter of about two and a half inches; dilatable	Second cranial	Yes; 2½ hours	Ergotic	55 minutes
Nov. 6	141	2706	M.	Fully dilated	Face	Yes; an hour	Ergotic and very strong	4 hours
Nov. 7	142	2707	M.	Half-a-crown; very thick	Third cranial	Yes; 12 hours	Ergotic and good	2 hours
Nov. 11	143	2710	M.	Well dilated; very dilatable	First cranial	Yes; just before	Almost immediately ergotic	10 minutes
Nov. 17	144	2713	M.	Dilating, but thick and rigid; two or three inches diameter	First cranial	Yes; half an hour; liquor amnii redundant	Very soon ergotic	1 hour
Nov. 23	145	2716	P.	Half-a-crown; rather rigid	First cranial	Yes; 1 hour	Very ergotic, strong and frequent	2½ hours
Nov. 25	146	2717	M.	Crown-piece; dilatable	Face	Yes; half an hour	Very good, strong, and almost continuous	1½ hour

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Boy; very lively; cried before expulsion of shoulders	No	Pains languid and infrequent	No bad symptoms.
Boy; lively; very large child, weight 10 lbs.	No	Very languid pains. Labour hard and tedious	No bad symptoms.
Girl; very lively; moulded head, with head swelling	Yes	Second labour. Tedious and hard. Her first labour was also an ergot case, No. 75 in this report	No bad symptoms.
Girl; very lively; much swollen about the face	No	I was called in to assist a junior practitioner in this case. I delivered immediately with the forceps. The ergot had been given four hours before my arrival, and was acting well	No bad symptoms.
Boy; very lively, but feeble	No	No pains after escape of liquor amnii until the ergot was given. After full dilatation of os uteri, when the head ought to have dropped on the perinæum, finding it delayed	No bad symptoms. by its abnormal position—face at pubes—I rectified the position, putting an end at once to the tediousness of the process
Boy; very lively	No	Pains almost entirely absent	No bad symptoms.
Boy; slight hesitation of respiration for a minute or two; then quite lively. Head much elongated, and very puffy	No	Head remaining high and refusing to pass through the os uteri, when nearly fully dilated, I delivered with vectis, having a very hard pull with it	No bad symptoms.
Boy; slight suspension of respiration for a few seconds; then lively and lusty	No	Arrival at 5 a.m., os uteri rigid and just admitting tip of forefinger. At 8 no alteration; ruptured the membranes and dilated with fingers to size of half-a-crown. At 9 gave the ergot. Head being delayed when os was well dilated, I delivered with vectis	No bad symptoms.
Boy; slight suspension for a few seconds; then quite lively	No	An hour and a half after giving the ergot, I made an unsuccessful attempt at turning. Immediately after which I succeeded in delivering with the vectis; hastening the delivery thus because I found that the funis had slipped down while I was trying to turn.	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1858 Jan. 2	147	2730	M.	Dilating; dilatable	First cranial	Yes; just before	At the end of twenty minutes furiously ergotic	40 minutes
Jan. 3	148	2731	M.	Two inches diameter; thin and dilatable	First cranial	Yes; just before	During the last five minutes violently ergotic	20 minutes
Feb. 6	149	2739	M.	Crown-piece; very dilatable	First cranial	Yes; just before	Very ergotic during last half hour	55 minutes
Feb. 9	150	2741	M.	Palm of hand; very dilatable	Second cranial	Yes; just before	Ergotic in ten minutes	30 minutes
Feb. 22	151	2745	P.	Crown-piece; very dilatable	Second cranial	Yes; just before	At the end of ten minutes ergotic, remaining so for two hours, then suspended again	2¼ hours
Feb. 23	152	2746	M.	Palm of hand; dilatable	Fourth cranial	Yes; just before	Ergotic in a quarter of an hour	1 hour
March 2	153	2749	M.	Dilating and dilatable	First cranial	Yes; 5 days	Almost immediately ergotic	15 minutes
March 10	154	2752	M.	Readily admitting two fingers; rigid	Fourth cranial	Yes; just before	Insufficient throughout	2 hours
March 22	155	2754	M.	Palm of hand; dilatable	Second cranial	Yes; just before	Ergotic in about ten minutes	50 minutes
March 29	156	2757	M.	Dilated	Second cranial	Yes; just before	Ergotic in a quarter of an hour	30 minutes
April 1	157	2760	M.	Crown-piece; thin, dilatable	First cranial	Yes; just before	Very ergotic	30 minutes
April 13	158	2765	M.	Crown-piece; thin, dilatable	First cranial	Yes; just before	Very soon ergotic	1 hour
April 16	159	2767	M.	Crown-piece; dilatable	First cranial	Yes; just before	Very ergotic; scarcely any intervals	1½ hour

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Boy; very lively	Yes	Very feeble pains	No bad symptoms.
Boy; very lively	Yes	The pains, which had been good, became suspended after my arrival, and remained almost absent during a full hour that I waited for their return	No bad symptoms.
Girl; very lively	Yes; twice	Very feeble. Completed delivery with vectis	No bad symptoms.
Boy; lively	No	Pains suspended on my arrival	No bad symptoms.
Girl; lively; large child. Head much elongated and puffy	Yes; twice	Suspension of pains on my arrival. Head descending with difficulty, I applied the vectis, which slipping off, I delivered with long forceps	No bad symptoms.
Boy; lively	No	Face having come round to pubes, and being thus delayed, I delivered with the vectis	No bad symptoms.
Girl; lively	No	Premature labour	No bad symptoms.
Girl; lively	Yes	Delivery with vectis; the face twisting from right side of pelvis to pubes during extraction	No bad symptoms.
Girl; lively	No	Feeble pains	No bad symptoms.
Girl; lively	No	Feeble pains	No bad symptoms.
Boy; lively	Yes	Feeble and unsatisfactory	No bad symptoms.
Boy; lively	No	Feeble and infrequent pains. A very easy labour throughout	No bad symptoms.
Boy; lively; very large head	Yes	Having been called to this patient thirty-six hours before, I gave a dose of ergot, the os uteri being slightly dilated and some pains being present, but it had no effect. I think it would have acted if I had first ruptured the membranes, as, in fact, it did on the occasion of this my second call to the case. The labour being hard, I completed delivery with the vectis. There was escape of meconium in utero, a quantity being found on the placenta.	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1858 May 20	160	2780	P.	Admitting three fingers; rigid	First cranial	Yes; just before	Ergotic, very short intervals	2 hours
June 2	161	2785	M.	Dilated	Second cranial	Yes; half an hour	Never ergotic; infrequent to the last	30 minutes
July 19	162	2800	P.	Crown-piece; dilatable	First cranial	Yes; an hour	Ergotic	45 minutes
Sept. 27	163	2818	M.	Palm of hand; dilatable	First cranial	Yes; just before	Ergotic during the last three quarters of the hour	1 hour
Sept. 28	164	2819	M.	Crown-piece; thick, unfavorable	Second cranial	Yes; just before	Ergotic at the end of half an hour	2 hours
Oct. 2	165	2820	M.	Palm of hand; dilatable	First cranial	Yes; just before	No pains at all during first ten minutes; then very ergotic	20 minutes
Oct. 19	166	2825	M.	Crown-piece; rigid and knotty	Second cranial	Yes; 5 hours	Very ergotic	1½ hour.
Oct. 24	167	2827	M.	Half-crown; favorable	First cranial	Yes; just before	Very ergotic	20 minutes
Oct. 31	168	2831	M.	Crown-piece; thick and rigid	Second cranial	Yes; just before Membranes very thick	Ergotic, but unsatisfactory	1¾ hour
Nov. 5	169	2833	M.	Dilated	First cranial	Yes; just before	Ergotic at once	15 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; very lively	No	Arrival at 2·30 a.m. Good and frequent pains since 8 over night. Os uteri only admitting tip of one finger; rigid. Waited three hours; no alteration of os uteri. Ruptured the membranes, at the same time dilating the os with the fingers until I could pass up three beyond the knuckles. Then gave the ergot. Delivered with vectis at 7h. 35m. a.m.	No bad symptoms.
Girl; lively	No	Pains very unsatisfactory	No bad symptoms.
Boy; dead; slightly putrid. Premature, 7 months' child. I divided the funis without ligatures, and both cut ends bled slightly, thick, black blood	No	Feeble pains. The placenta was soft and attenuated. The child had evidently been dead several days	No bad symptoms.
Boy; lively	No	Suspension of pains on my arrival	No bad symptoms.
Girl; lively, cried before expulsion of shoulders. Very large child	No	Pains quite suspended	No bad symptoms.
Girl; very lively	No	Pains quite suspended	Mania in first week. Puerperal fever with pneumonia following. Then phlegmasia dolens, and ultimately abscesses. Recovery perfect, but slow.
Boy; lively	No	Completed delivery with vectis	No bad symptoms.
Girl; lively	No	Ergot given experimentally	No bad symptoms.
Boy; lively	No	Hard pull with forceps, finding the head descending through os uteri with difficulty	No bad symptoms.
Boy; lively	No	Easy labour throughout	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1858 Nov. 9	170	2834	M.	Crown-piece; not very favorable	First cranial	Yes; just before	Ergotic in about ten minutes	70 minutes
Nov. 14	171	2837	M.	Palm of hand; dilatable	Second cranial	Yes; just before	Ergotic in ten minutes	20 minutes
Nov. 15	172	2838	P.	Crown-piece; thin, dilatable	First cranial	Yes; just before	Very ergotic, and without intervals	65 minutes
Dec. 5	173	2842	M.	Palm of hand; dilatable	First cranial	Yes; just before	Very good and ergotic	35 minutes
Dec. 10	174	2844	M.	Palm of hand; thick, but dilatable	First cranial	Yes; just before	Very ergotic	55 minutes
1859 Jan. 9	175	2850	M.	Palm of hand; dilatable	Second cranial	Yes; just before	Ergotic in ten minutes	25 minutes
Jan. 17	176	2851	M.	Dilated	Second cranial	Yes; just before	Very good effect	25 minutes
Jan. 25	177	2856	M.	Crown-piece; thin, dilatable	First cranial	Yes; 20 hours	No effect on pains until the expiration of one hour, then ergotic and good	1½ hour
Feb. 11	178	2858	M.	Shilling; thin, rigid	First cranial	Yes; just before	Began to be ergotic at the end of an hour, and so continued	2¾ hours
March 4	179	2865	M.	Palm of hand; very dilatable	First cranial	Yes; just before	Speedily ergotic and continuous	46 minutes
March 9	180	2867	M.	Palm of hand; dilatable	Second cranial	Yes; just before	Soon ergotic	40 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; fine lively child	No	Arrival at 4 p.m. She had had slight pains from 4 till 7 a.m.; then suspension. On my arrival, there were no pains. Waited three hours; there were slight pains; os uteri dilated size of half-a-crown. Waited five hours longer; pains somewhat improved. Os dilated size of crown-piece. Ruptured membranes and gave ergot	No bad symptoms.
Boy; lively	Yes	Feeble and infrequent pains	No bad symptoms.
Boy; lively. Head much elongated	No	Feeble and inefficacious for twenty-four hours	No bad symptoms.
Girl; lively	No	After full dilatation of os uteri, the pains being good, finding the head delayed, I delivered with vectis	Slight phlegmasia dolens in fourth week, with very little constitutional disturbance.
Girl; lively	No	Feeble and unsatisfactory pains	No bad symptoms.
Girl; lively	No	Languid pains	No bad symptoms.
Boy; lively	No	Pains suspended more than an hour	No bad symptoms.
Boy; lively	Yes	Little or no pain on my arrival, and no improvement during half an hour that I waited before giving the ergot	No bad symptoms.
Boy; quite lively	No	Good case for experiment. Third child. Two previous children born dead after very protracted hard labours, attended by another practitioner. I ruptured the membranes and gave full dose of ergot at once. Then when the os uteri was about three parts dilated, I delivered with vectis	No bad symptoms.
Boy; lively	No	Had had irregular pains for three days. Ruptured the membranes and gave the ergot immediately on my arrival	No bad symptoms.
Boy; lively	No	Irregular pains for fifteen hours. Rectum full of indurated fæces. Emptied it with enema; then ruptured membranes and gave ergot	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1859 April 2	181	2880	M.	Crown-piece; dilatable	Second cranial	Yes; just before	Ergotic in half an hour	55 minutes
April 3	182	2881	M.	Half-a-crown; very thick, but soft and dilatable	First cranial	No. See report in 12th column	Failure of ergot. The pains continuing very slight and infrequent until the head was brought to perinæum by the vectis.	7 hours from first dose. ¾ of an hour from second
April 15	183	2889	M.	Three parts dilated; dilatable, but very thick	First cranial	Yes; several hours	Ergotic at the end of an hour	1 hour and 15 minutes
May 2	184	2894	M.	Three parts dilated; dilatable	First cranial	Yes; just before	Soon ergotic	20 minutes
May 3	185	2896	M.	Three parts dilated; dilatable	First cranial	Yes; just before	Soon ergotic	45 minutes
May 15	186	2898	P.	Dilated	First cranial	Yes; just before	Ergotic during last half hour	70 minutes
May 28	187	2901	M.	Admitting tips of two fingers; thick, but moderately dilatable	*First*—First cranial *Second*—Shoulder	Ruptured membranes during act of turning	No particular effect	10 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	No	Feeble and inefficient pains	No bad symptoms.
Girl; quite dead and pulseless. No bleeding from funis when divided without a ligature. Signs of putridity in cuticle peeling off back. The mother had not felt it move for more than a week	No	The subject of Case 102 in this report. Escape of "false waters" at 1½ a.m. Arrival at 7·30. No pains. Os dilated size of a shilling, very thick. Os uteri having dilated to size of half-a-crown at 9·45, I gave a dose of ergot. Waited for pains until 1·15 p.m. Slight pains with increasing dilatation. Amnios proving to be entire I ruptured. Pains then began to improve. At 2·30 I applied the vectis and brought the head on the perinæum. The vectis having slipped away, I gave a second dose of ergot at 3, and then allowed the head to be expelled by the natural efforts	Puerperal fever began on second day, and continued with great tympanitis, diphtheria, and many other untoward symptoms until near the end of the month. Good recovery, but slow.
Boy; lively after slight hesitation	No	Languid pains	No bad symptoms.
Girl; lively	Yes	Languid pains	No bad symptoms.
Girl; lively	No	Languid pains	No bad symptoms.
Boy; lively; cried before expulsion of shoulders	No	Languid pains	Metritis with great fever and constitutional disturbance in second week. Abscess of breast in fourth week. Slow recovery but perfect.
Boy and girl; both living and lively, though premature. They survived several hours, the girl dying first	——	*Placenta prævia.* Considerable hæmorrhage coming on, I was sent for. Placenta felt posteriorly. Vagina full of coagula. Os uteri readily giving way I passed up my hand, and having secured a foot I tied a piece of tape round it, and then prepared and gave a dose of ergot, there being no pains present. The pains came very quickly; I brought away the child. I then found there was a second child *in utero.* I ruptured its membranes, and finding a shoulder presenting, I turned it also and brought it away. The placentæ were separate. That of the first child was a good deal lacerated	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1859 May 31	188	2904	M.	Dilating; dilatable	Second cranial	Yes; just before	Ergotic during last half hour	85 minutes
June 1	189	2905	M.	Crown-piece; dilatable	Second cranial	Yes; just before	Soon ergotic	45 minutes
June 21	190	2911	M.	Dilated fully	Second cranial	Yes; half an hour	Ergotic at once	5 minutes
July 11	191	2918	P.	Crown-piece; rigid	First cranial	Yes; 1 hour	Very ergotic and continuous	1½ hour
July 11	192	2919	M.	Dilating; dilatable	First cranial	Yes; just before	Gradually ergotic	1 hour
July 14	193	2920	P.	Half-dilated; dilatable	Fourth cranial	Yes; just before	Very ergotic	1 hour
July 18	194	2923	P.	Crown-piece; dilatable	First cranial	Yes; just before	Very soon ergotic; never expulsive	1¾ hour
July 21	195	2925	P.	Dilated fully	First cranial	Yes; 1 hour	No effect	45 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	No	Languid pains	Some feverish symptoms in second week. Slow recovery.
Boy; very lively	Yes	Languid pains	No bad symptoms.
Boy; lively	No	Pains had been very languid, but were reviving before I gave the ergot, which certainly had not time to act before the child was born	No bad symptoms.
Girl; lively	No	On arrival, os thin, rigid, admitting only tip of one finger. I dilated with my fingers until three were readily admitted, then ruptured the membranes. Waited an hour for pains, which not coming on satisfactorily, I gave ergot. When os was nearly obliterated, I delivered with forceps	No bad symptoms.
Girl; lively	Yes	Suspension of pains	No bad symptoms.
Girl; lively; large child. Head puffy and elongated in direction of anterior fontanelle, the part originally presenting	No	A face to pubes case. The head being delayed by its malposition, I delivered with the forceps	No bad symptoms.
Girl; very lively. Very large ossified head	No	Arrival at 10·30 p.m. Pains from 5 a.m. Os uteri dilated size of a groat; dilated it with fingers until four were admitted. Waited an hour. Ruptured the membranes and gave the ergot. At the end of another hour, finding the progress retarded, I delivered with forceps. Extraction very difficult	No bad symptoms.
Girl; very lively	No	Pains from 3 a.m. On arrival at 10 p.m. os uteri dilated size of half-a-crown. Ruptured the membranes. For one hour, rapid progress; dilatation complete. Then suspension of pains. Gave ergot. No effect. After waiting three quarters of an hour for pains, I delivered with the forceps	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1859 July 25	196	2927	M.	Dilated; dilatable	First cranial	Yes; 2 hours	Pains very strong, frequent, and forcing	10 hours
Aug. 24	197	2938	M.	Dilated nearly; dilatable	First cranial	Yes; 15 minutes	At the end of a quarter of an hour, ergotic	35 minutes
Aug. 30	198	2940	M.	Dilated nearly; dilatable	First cranial	Yes; just before	Soon ergotic	30 minutes
Sept. 23	199	2950	M.	Three parts dilated; dilatable	Second cranial	Yes; just before	Almost immediately ergotic	30 minutes
Sept. 28	200	2953	M.	Well dilated	Second cranial	Yes; half an hour	Almost immediately ergotic	17 minutes
Oct. 11	201	2958	M.	Well dilated	First cranial, with prolapsed hand	Yes; just before turning	No effect from the ergot. If I had waited for ergotic action, there would probably have been less hæmorrhage	10 minutes
Nov. 7	202	2968	M.	Crown-piece; thick, but dilatable	Third cranial	Yes; just before	Ergotic at the end of an hour	2½ hours
Dec. 26	203	2977	M.	Half-a-crown; rather rigid	Second cranial	No.	No ergotic effect	40 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively after some hesitation. Head much squeezed and distorted in the direction of the right parietal bone, being indented all along the sagittal suture	No	Consultation case. On my arrival I found that Mr. —— had been in attendance nearly twenty-four hours, having given a dose of ergot over night. I found the head arrested at the brim, just within reach of finger. Pelvis much narrowed in antero-posterior diameter. I immediately delivered with the forceps. Three children previously, the first two extracted with the forceps, the third born without assistance	No bad symptoms.
Boy; very lively	No	Pains commencing at 5 a.m. Suspension of pains at 10. Rupture of membranes at 11. At 11¼ no return of pains. Ergot	No bad symptoms.
Boy; lively	No	Feeble pains	An attack of weed on the third day, pulse 180; the attack was not repeated.
Boy; very lively	Yes	Very feeble pains	No bad symptoms.
Girl; lively	Yes	Rectum very full of indurated fæces. Enema. No pains. Waited half an hour and gave ergot	No bad symptoms.
Boy; lively and vigorous	Entangled between the legs of the child	A hand down between sacrum and head. Fearing that the head would slip above the pubes, and the hand take its place, as it seemed disposed to do, I, after watching the effect of a few pains, turned the child. The operation was very easy. I then gave a dose of ergot, thinking to improve the quality of the pains before completing the delivery, but finding that the funis was being dragged down between the legs of the child, I hastened the delivery, lest a too prolonged compression of that organ should destroy the child	Very great hæmorrhage followed the delivery, attended with faintness, pulselessness, and a state of collapse, which lasted three or four hours, notwithstanding the hæmorrhage was arrested at once by pressure on fundus uteri, cold dash, &c. Brandy was given, and the patient made a capital recovery.
Girl; lively	No	A face at pubes case	No bad symptoms.
Boy; lively after some slight hesitation	No	Having waited half an hour without any effect from the ergot in bringing on the pains, I delivered by turning	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1859 Dec. 31	204	2978	M.	Three parts dilated; dilatable	First cranial	Yes; just before	Very ergotic	30 minutes
1860 Jan. 8	205	2979	M.	Half-crown; dilatable	First cranial	Yes; just before	Ergotic at the end of a quarter of an hour	70 minutes
Jan. 17	206	2982	M.	Well dilated; dilatable	First cranial	Yes; 21 hours	Very ergotic at the end of a quarter of an hour	70 minutes
Feb. 8	207	2992	M.	Crown-piece; dilatable	Second cranial	Yes; 2½ hours	Ergotic in a quarter of an hour	2 hours
Feb. 23	208	2996	M.	Palm of hand; dilatable	First cranial	Yes; just before	Soon ergotic	25 minutes
Feb. 24	209	2998	P.	Palm of hand; dilatable	Second cranial	Yes; just before	No effect on the pains	2 hours
March 1	210	3000	P.	Crown-piece; dilatable	Second cranial	Yes; just before	Ergotic and good	2½ hours
March 9	211	3002	M.	—	Second cranial	—	Very ergotic on my arrival	3 hours
May 3	212	3021	P.	Half-crown; dilatable	First cranial	Yes; just before	Ergotic during last two and a half hours	3 hours
June 12	213	3033	M.	Three parts dilated; thin and dilatable	Second cranial	Yes; just before	Soon ergotic	35 minutes
June 25	214	3038	M.	Crown-piece; dilatable	First cranial	Yes; 8½ hours	No effect	45 minutes
July 6	215	3040	M.	Three parts dilated; very dilatable	Second cranial	Yes; just before	Effect very slight	45 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	No	Inefficient pains for twenty-four hours	No bad symptoms.
Girl; lively	Yes	Languid pains for eight hours	No bad symptoms.
Boy; very strong and lively	Yes	Slight pains had been going on during the twenty-one hours that had elapsed since the membranes gave way	No bad symptoms.
Boy; a very large, lively child	No	Waters escaped spontaneously at 4 a.m. Arrival at 6. Ergot at 6½. Birth of child at 8½	No bad symptoms.
Girl; lively	No	No pains during an hour that I waited for their return	No bad symptoms.
Girl; lively after a few seconds of hesitation	No	The pains becoming weaker and weaker, I delivered by turning two hours after the ergot was given	No bad symptoms.
Girl; very lively. Very large child	No	Delivery with vectis. Adherent placenta. Hæmorrhage ad deliquium, both before and after extraction of placenta	No bad symptoms. Good recovery.
Boy; lively	Yes	Called in to the assistance of a junior practitioner, who had been in attendance between four and five hours, and had given the ergot. Delivery at once with forceps	No bad symptoms.
Boy; lively	No	Delivery with forceps	No bad symptoms.
Girl; lively	No	Retention of placenta; extracted at the end of twenty minutes	No bad symptoms.
Girl; lively after a few seconds of hesitation	No	Feeble and infrequent pains for forty-eight hours. At 10 a.m. os dilated size of crown. I ruptured the membranes; no effect. At 6½ p.m. ergot; little or no effect. Losing all patience, I turned the child and brought it away by the feet. Operation easy, though the liquor amnii had been evacuated many hours	No bad symptoms.
Girl; lively	No	Feeble and tiresome	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1860 July 24	216	3048	M.	Three parts dilated; dilatable	First cranial	Yes; just before	Very ergotic	1 hour
Aug. 4	217	3053	P.	Three parts dilated; dilatable	First cranial	Yes; half an hour	Ergotic	1½ hour
Aug. 5	218	3054	M.	Dilated	First cranial	Yes; a quarter of an hour	Very slight effect perceived	10 minutes
Sept. 10	219	3066	P.	Half-crown; dilatable	Second cranial	Yes	Ergotic enough after a second dose of ergot	3 hours
Sept. 13	220	3068	M.	Crown-piece; dilatable; head high	First cranial	Yes; 13 hours	Ergotic in a quarter of an hour; but pains continued inexpulsive, until pressure was made with the hand on the fundus uteri	1½ hour
Sept. 17	221	3071	M.	Dilated	Second cranial	Yes; just before	Almost immediately ergotic	30 minutes
Sept. 21	222	3073	M.	Crown-piece; rather rigid, and very high up	First cranial	Yes; just before	Speedily ergotic	75 minutes
Oct. 1	223	3074	M.	Palm of hand; thin and dilatable	First cranial	Yes; 4 hours	Quite ergotic, and without intervals for last half hour	45 minutes
Oct. 8	224	3076	M.	Dilated; very dilatable	Second cranial	Yes; just before	Speedily ergotic	30 minutes
Oct. 10	225	3077	M.	Palm of hand; dilatable	Second cranial	Yes; 1½ hour	Ergotic	20 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively. Very large child	Yes	Not satisfactory	No bad symptoms.
Boy; very lively. Very large child, weight 10 lbs.	No	Feeble and tiresome. Delivery with vectis	Puerperal fever with maniacal symptoms commenced on seventh day. Death on sixteenth day.
Girl; quite dead. Destroyed partly by hæmorrhage, and partly, perhaps, by compression of funis, which was entangled between child's legs	No	Labour commencing with profuse hæmorrhage in eighth month. I turned the child immediately on arrival, and then gave ergot to ensure uterine action. Delivery completed half an hour after a foot was brought down. No difficulty, but I waited for expulsive pains, for fear of return of hæmorrhage	No bad symptoms.
Girl; lively	No	A tiresome primiparous case	No bad symptoms.
Girl; very lively	No	Spontaneous escape of liquor amnii, without pain, at 2 a.m. This state followed by very feeble, languid pains, until I gave the dose of ergot. Delivery at 4½ p.m.	An attack of convulsions at the end of a fortnight, recurring repeatedly during the third week, and then gradually leaving her. Long, slow convalescence. Perfect recovery.
Girl; very lively	No	Very tiresome, languid pains	No bad symptoms.
Boy; very lively	No	On arrival found os uteri dilated size of half-a-crown; rigid, and very high up, almost beyond reach of finger, being held up by very full rectum. Waited an hour and then gave an enema, which had the desired effect. I then gave a dose of ergot, the pains being in abeyance	No bad symptoms.
Boy; very lively and noisy	No	Little or no pain since escape of waters	No bad symptoms.
Boy; very lively	No	Unsatisfactory pains	No bad symptoms.
Boy; very lively	Yes	Languid pains after escape of liquor amnii	No bad symptoms.

Date.	No. of case.	No. in general Register of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1860 Oct. 21	226	3081	M.	Three parts dilated; very dilatable	First cranial	Yes; just before	Ergotic	30 minutes
Nov. 30	227	3097	M.	Dilated fully	Second cranial	Yes; just before	Ergotic in about ten minutes	35 minutes
Dec. 15	228	3100	M.	Dilated	Third cranial	Yes; just before	Ergotic in ten minutes	20 minutes
Dec. 16	229	3101	M.	Half-crown; thick, rigid	First cranial	No	Sufficiently ergotic by the time the breech reached the perinæum	20 minutes
1861 Jan. 26	230	3112	M.	Half-crown; dilatable, but thick and unpromising	First cranial	No	Ergotic when breech was brought down to perinæum	45 minutes
Jan. 28.	231	3114	M.	Palm of hand; very dilatable	Third cranial	Yes; just before	Soon ergotic	30 minutes
March 3	232	3128	P.	Rigid, admitting two fingers	First cranial	No	Ergotic in ten minutes	2½ hours
March 17	233	3132	P.	Shilling; thick, but favorable	First cranial	No	Very ergotic in half an hour	2½ hours
March 18	234	3133	M.	Half-crown; dilatable	First cranial	No	Ergotic	20 minutes
March 19	235	3134	M.	Palm of hand; dilatable	First cranial	No	Ergotic during last quarter of an hour	25 minutes
May 10	236	3149	M.	Shilling; thick, and very unfavorable	First cranial	No	Ergotic	1 hour and 25 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; lively	No	No pains on arrival; favorable case for ergot	No bad symptoms.
Girl; lively	No	Head very high in pelvis; pains inefficient	No bad symptoms.
Girl; lively	Yes	Pains weak, with intervals of an hour. Head expelled with face at pubes	No bad symptoms.
Boy; lively	No	Had been uneasy with slight pains for a day or two. Os as described, no pains on arrival. Gave ergot and then delivered by turning. Operation easy	No bad symptoms.
Boy; lively	Yes	On arrival I found she had had languid pains for twenty-four hours or more. Waited half an hour and gave a dose of ergot. No improvement. Gave a second dose, and then delivered by turning. Operation easy	No bad symptoms.
Boy; lively	Yes	Suspension of pains on my arrival. Anterior fontanelle too much in reach. Posterior fontanelle not to be felt. Forehead coming to pubes, I turned it back, rectifying position, so that head was expelled in second instead of third	No bad symptoms.
Boy; weight 9 lbs. Very lively	Yes	Membranes burst half an hour after the ergot was given. Delivery completed with vectis	No bad symptoms.
Boy; lively. Head much moulded	No	Liquor amnii escaped one hour after the ergot was given	No bad symptoms.
Girl; lively	No	Had had irregular pains for two or three days. Finding that she was really in labour, although the pains were very languid and infrequent, I gave a dose of ergot and then at once delivered by turning	No bad symptoms.
Boy; lively	No	Very tiresome, languid pains for many hours	No bad symptoms.
Boy; lively	No	Ergot having induced better pains, and os uteri having dilated so as readily to admit two fingers, I delivered by turning. Operation easy, and made to last 10 minutes	No bad symptoms.

Date.	No. of case.	No. in general Regis ter of Midwifery cases.	Primipara or Multipara.	State of os uteri when ergot was given.	Presentation.	Whether liquor amnii was evacuated or not; if so, how long.	Character of pains induced.	Interval between dose of ergot and birth of child.
1861 May 10	237	3150	M.	Admitting two fingers; thick, rigid	First cranial	No	The pains first induced ceased again at the end of an hour	2 hours
May 24	238	3161	M.	Admitting three fingers; dilatable	First cranial	No	Sufficient by the time the breech arrived on the perinæum	30 minutes
June 3	239	3165	M.	Admitting two fingers; very rigid	First cranial	Yes; half an hour	Ergotic	7½ hours
June 9	240	3168	M.	Crown-piece; quite dilatable, but unfavorable	Second cranial	No; but escaped half an hour afterwards	Very frequent, but very unsatisfactory in quality	1 hour and 5 minutes
June 20	241	3172	M.	Three parts very dilatable, but thick and lumpy	First cranial	Yes; 20 hours	Ergotic for last half hour	45 minutes
June 25	242	3175	P.	Three parts dilated; very dilatable and thin	First cranial	Yes; 10 minutes	Very ergotic during last hour	1 hour and 35 minutes

Sex of fœtus, its condition at birth.	Funis round neck.	Uterine action before ergot was given. Peculiarities of case, if any.	How the mother recovered.
Girl; premature. Small, but lively. Lived 6 hours	No	Inefficient labour pains induced by a dose of castor oil. Found the membranes tense during a pain. It was, therefore, labour. The ergot having failed as described, I delivered by turning. There was a good deal of hæmorrhage accompanied the delivery of the head, which continuing, I found the placenta incarcerated. I removed it immediately, after which the hæmorrhage ceased	No bad symptoms.
Boy. Very large child, weight 11 lbs. Asphyxiated a minute or two, then very lively	No	Pains during twenty hours, but irregular and unsatisfactory. Previous labours quick and easy. Gave ergot to quicken the pains, and then delivered by turning	After pains severe. No other bad symptoms.
Girl; small, and quite dead and very putrid	No	Had had irregular hæmorrhage for a whole month. Labour pains began June 1st, continuing without effect on os uteri for twenty-four hours, when I was summoned. Os uteri then admitting tip of one finger. Left her and called again twelve hours after. Os dilated so as to admit two fingers with difficulty. Had had great pain all day. Thinking it desirable to induce decided labour, I ruptured the membranes, after which the pains ceased entirely. Half an hour after I gave a dose of ergot. N.B. In sixth month	No bad symptoms.
Girl; premature, and small, gasped two or three times, but never breathed	Prolapsed	Had been many hours in labour. At the end of an hour after the ergot was given I felt a coil of funis between the head and the pelvis. The os not being then sufficiently dilated to admit the forceps or vectis, I delivered by turning, but too late to save the child	No bad symptoms.
Girl; large child, very lively	No	Very languid and tedious	Doing well.
Boy; large child. Head much elongated and moulded; very lively	No	Pretty good. Delivery with vectis after head had come on perinæum	No bad symptoms.

Analysis of foregoing Table.—This, the second series of my tabulated ergot reports, commences December 23rd, 1855, with No. 2442 of my general register of midwifery cases, and terminates June 30th, 1861, with No. 3178. The last *ergot* case having been No. 3175 (*vide* third column of tables), it will be understood that I include in the present analyses a notice of three *non*-ergot cases attended since the last ergot case. The whole number of midwifery cases attended by me during the five and a half years over which the ergot experiments of this present series were spread was, therefore, 737. On that gross number of 737 cases, the ergot of rye was administered in 173 cases, or one in four and three quarters nearly. It must be noticed also that as the present reports are a continuation of the previously recorded reports of the sixty-nine cases so much discussed, the first *ergot* case therein tabulated stands as No. 70 (second column).

On looking carefully over the tables, I find that 174 children were born under the influence of ergot, there having been one twin case in the series, and that only five of the 174 were born dead, viz., in Cases 162, 182, 218, 239 and 240. Certainly a very favorable proportion when compared with the nine still-births of the former series of sixty-nine ergot cases. These five still-births are thus explained :—In Case 162 the child was premature and small, length only twelve inches; there was incipient putridity, and the placenta was abnormally thin and soft. In Case 182 also, although at the full period, there was incipient putridity, and the mother had not felt the child move for more than a week. Case 218 was one of placenta prævia, premature, attended with profuse hæmorrhage, and delivery effected by turning, ergot having been given to prevent after-hæmorrhage. In Case 239 the child, a premature one, was quite putrid. In Case 240 there was prolapsed funis, not detected until an hour after the ergot was given, the operation of turning, which was immediately resorted to on that discovery being made, having been too late to save the child.

169 children of the 174 born under the influence of ergot were born alive, and more or less lively, vigorous, and viable.

In the following table are compared together the still-births, both without and with ergot, in both series.

TABLE II.—*A Table of the Still-births which occurred in the complete series of* 1017 *cases attended by the author between January* 1*st*, 1854, *and June* 30*th*, 1861, *inclusive, in* 242 *of which the Ergot of Rye was administered.*

N.B.—There having been 16 twin cases, the total number of children born was 1033. No account taken of abortions, *i.e.* of fœtuses expelled before the period of quickening. Sex of child distinguished thus—B, boy; G, girl. Primiparous cases by an asterisk.

Appreciable causes of still-birth.	No. of case; corresponding with third column in the ergot tables.	Special circumstances of the labour.	Sex of child.	Whether ergot had been given or not. If so, No. of case in second column of ergot tables.
More or less PUTRID	2209	Easy natural labour; premature	B.	No.
	2218*	Hard labour at full period; the woman aged 40. Vectis delivery	B.	Yes; No. 19.
	2228	Feet presentation, with prolapsed funis; premature	G.	No.
	2268	Easy natural labour; premature. Funis black. Liquor amnii evacuated twenty hours	B.	Yes; No. 33.
	2346	Easy natural labour; premature. Redundant liquor amnii	B.	No.
	2621	Shoulder presentation. Delivery easy without turning; premature. Mother phthisical	G.	No.
	2693*	Feet presentation; premature	B.	No.
	2800*	Easy natural labour; premature. Placenta abnormally thin and soft	B.	Yes; No. 162.
	2881	Hard labour at full time	G.	Yes; No. 182.
	2956	Turning case of arms presentation at full time	B.	No.
	3067	Breech presentation; premature. Disease of placenta	B.	No.
	3127 3127	Twins, presenting the feet, both dead and putrid; premature	B. B.	No.
	3165	Premature, preceded by hæmorrhage during a whole month	G.	Yes; No. 239.
	3166	Feet presentation; premature	G.	No.
CRANIOTOMY	2521*	Called in by a junior practitioner to assist in the delivery after he had opened the head	B.	No.
	2762*	In consultation with a junior practitioner, who had failed with the forceps, as I did also	B.	No.
	3087*	Failure with vectis and forceps; unsuccessful attempt at turning. Exostosis encroaching on brim of pelvis	G.	No.

Appreciable causes of still-birth.	No. of case; corresponding with third column in the ergot tables.	Special circumstances of the labour.	Sex of child.	Whether ergot had been given or not. If so, No. of case in second column of ergot tables.
Footling cases—DIFFICULT DELIVERY OF HEAD	2434	Enormous hydrocephalic head. Presentation of feet; premature	B.	Yes; No. 67.
	2598	Vertex presentation; delivered by turning; large child; narrow pelvis	B.	No.
	2763*	Feet presentation. Hydrocephalic head; marvellously short funis	G.	No.
	2955	Premature labour; arm presentation; delivery of head delayed by tight grasp of os uteri	B.	No.
PROLAPSED FUNIS	2301*	Forceps delivery	B.	No.
	2400	Head presentation. Case left to nature	B.	No.
	2683	Head presentation. Delivery by turning	B.	No.
	2964*	Head in pelvis, under the care of a midwife. Delivery of a large child with forceps	B.	No.
	3168	Coil of funis detected between head and pelvis an hour after ergot was given. Delivery by turning, which was difficult	G.	Yes; No. 240.
PLACENTA PRÆVIA	2983	Complete placenta prævia; head presentation; great hæmorrhage; premature. Delivery by turning	B.	No.
	3019	Partial placenta prævia; head presentation; premature; great hæmorrhage. Delivery by turning	B.	No.
	3047	Partial; with shoulder presentation; great hæmorrhage; premature. Delivery by turning	B.	No.
	3054	Chronic hæmorrhage during a month past, profuse at last; placenta felt; head presentation; premature. Delivery by turning. Ergot given after version to prevent return of hæmorrhage	G.	Yes; No. 218.
HÆMORRHAGE preceeding or accompanying the labour. Placenta not felt	2176	At full time. Hæmorrhage very great *ad deliquium*	B.	Yes; No. 5.
	2299	At full time. Great hæmorrhage	G.	Yes; No. 39.
	2453	With feet presentation; premature	G.	No.

Appreciable causes of still-birth.	No. of case; corresponding with third column in the ergot tables.	Special circumstances of the labour.	Sex of child.	Whether ergot had been given or not. If so, No. of case in second column of ergot tables.
Severe and difficult INSTRUMENTAL *delivery*	2230	Excessive œdema of thighs and vulva, interfering with expulsion of head. Delivery with vectis	B.	Yes; No. 23.
	2395*	Very difficult delivery with the forceps. Head of child much congested	B.	Yes; No. 56.
MONSTERS	2884	Anencéphale. Back presentation; premature	G.	No.
	3007	Anencéphale. Second of twins; the first living	G.	No.
DROPSICAL FŒTUS	2732	Softened placenta; hasty labour	B.	No.
PLACENTA DISEASED	2701	Premature; putrid placenta	B.	No.
	2712	Premature; softened placenta; putrid funis	B.	No.
CONVULSIONS during labour	2191*	At full time	B.	No.
	2320*	Premature	B.	No.
Evidence of latent COMPRESSION OF FUNIS	2212*	Delivery with vectis	G.	Yes; No. 16.
THE MOTHER ILL OR DYING	3089*	The mother very ill for two or three weeks with bilious vomitings, diarrhœa and fever; premature	B.	No.
CAUSE NOT MANIFEST	2168	Easy natural labour	B.	Yes; No. 2.
	2456	Breech presentation; premature; quick and easy	B.	No.
	2517	Easy and quick natural labour; premature	G.	No.
	2618	Easy natural labour; premature	B.	No.
	3005*	Quick, easy natural labour; at full time. Child born before my arrival	B.	No.

Total still-births, 50 in 1033 children born, or 1 in $20\frac{3}{4}$.
14 in 243 children born under ergot, including 1 twin case, or 1 in about 17.[1]

[1] *Vide* Summary, Table III, page 277.

Analysis of the Table of Still-births without, as well as with, Ergot (TABLE II).

Reviewing the grand total of the cases comprised in this experimental inquiry, we find a total of fifty still-births, from all causes, on the whole number of 1033 children born; of which 14 took place among the 243 children born under the influence of ergot. Let me here point out, *par parenthèse,* that Table II comprises the results of the grand total of midwifery cases attended from the very commencement of the inquiry, and therefore includes those of the first series. There were sixteen twin cases, making, on 1017 cases (between Nos. 2162 and 3178 of my register), a total of 1033 children born.

This gross proportion of still-births is large, 1 in $20\frac{3}{4}$, or thereabout, and the proportion under ergot is still larger, viz., 1 in 17; but in order to institute a perfectly fair comparison, we must eliminate altogether from the inquiry all the stillbirths that are not comprised in the last division of causes in the table—"Cause not manifest." There are 5 still-births under that head, only 1 of which took place under the influence of ergot; 1 in 5, therefore, a rather smaller proportion than that of the ergot to the non-ergot cases.

After this explanation I think it may be fairly conceded that, whatever the seeming excess, the ergot cannot with justice be held to be responsible for such excess, unless it be made responsible for the *putrid cases.* As I have said before, the fact simply shows that I was unfortunate in the period selected for the experiments, and especially so in the first series of 69, in which, certainly, a very heavy proportion of still-births befell, viz., 9, which, added to the much smaller proportion of 5 in the present series of 174 children born, swells unduly, and perhaps unfairly, the whole number. As for the proportion of still-births, 1 in 17, being 1 per cent. greater than the gross proportion of 1 in $20\frac{3}{4}$ for the complete series, that was surely either accidental or attributable to the fact that in at least 3 of the 14

cases, viz., in Nos. 5, 39, 219, the ergot was given for the safety of the mother, on account of the very condition—hæmorrhage—which most likely destroyed the children; for, deducting those 3 cases from the 14, we should have only 11 still-births under ergot, or 1 in 22.

I may now remark that the tables inserted in this paper may be studied from several different points of view. In the first place, by applying the exact test suggested by Danyau, and taking only the first 69 cases of the second series, which would be, strictly speaking, as he expresses it, "une série de pareil nombre d'expériences instituées de la même manière," we should find that there was not a single still-birth from any cause in that number. But as that circumstance would prove only, as did the excess of still-births in the preceding series of 69 cases, that that number of facts was too small to justify a general conclusion from them, I do not, although I might fairly claim to do so in answer to Danyau's strictures, insist exclusively upon the facts of that second series of 69 cases. In the second place then, extending the inquiry over the much larger number of cases comprised in the whole of the second series, viz., 173 cases, I might insist upon the fact in favour of the ergot of rye, that of the 174 children of that series only 5 were stillborn from all causes, a proportion rather less than 1 in 34, while the still-births of the non-ergot and ergot cases, taken together, of that series—737 cases and 750 children—amounted to 35, or 1 in 21, a proportion much more unfavorable than that of the ergot cases of the same series taken by themselves. In the third place, I can tell the whole truth of my experimental inquiry into the results following the administration of ergot, as I prefer to do, by joining together the facts of the first, the unfavorable, series and those of the present series of 173; making altogether a total of 242 cases or experiments, with a total of 14 still-births *from all causes*, of which I maintain only one was inexplicable, for I cannot admit, as Deville and Danyau think I ought to do, that Cases 16, 23, and 56

were destroyed by ergot. Finally, they meet the requirements of both the 'Gazette Hebdomadaire' and of Messrs. Deville and Danyau; of the former by giving the reader an opportunity of comparing my accouchements in which ergot was given with those in which it was not given (Table II); of the latter, by giving the details of all the ergot cases, the fortunate as well as the unfortunate ones (Table I).

To revert for a moment to individual cases, I must here be allowed to remark that, while Danyau's explanation of the favorable results of my first series (that they were attributable to the fact that the interval under ergot was usually only an hour or less) is not satisfactory as applied to that series, the intervals in many of the favorable cases having been much more, that explanation is still less satisfactory when applied to the facts of the present series; in proof of which I would point to Case 73, three hours; Case 76, six hours; Case 79, four hours; Case 91, seven hours; Case 92, five hours, and two doses taken; Case 115, four and a quarter hours, and two doses taken; Case 116, three hours, two doses taken, and liquor amnii evacuated more than three hours before the ergot was given; and to many more, especially to Case 196, ten hours, with contracted pelvis, strong ergotic effects, and an ultimate difficult forceps delivery; and still more especially to Case 178, two and three quarter hours, and hard delivery with the vectis, a case the subject of which had previously had two dead children, in consequence of hard, unassisted labours.

In order that there may be no misunderstanding on this point, I have arranged the whole number of 242 ergot cases into four groups, according to the period that elapsed between the administration of the dose, or first dose, and the birth of the child, and find the following results:

(A.) The *first group* includes those instances in which the child was born within *three quarters of an hour* after the first dose; these number 94, of which 11 were primiparous.

Of the 11 primiparæ of this group were born 7 boys, 1 of whom was born dead, being putrid at birth (No. 162); and 4 girls, all living.

Of the 83 multiparæ were born 49 boys, of whom 1 was

born dead, being putrid at birth (No. 33); and 35 girls, of whom 1 was born dead from hæmorrhage during the labour, which was premature (No. 218). There was one case of twins.

In these 94 labours, producing 95 children, 3 children were brought into the world by means of the vectis, 1 with the forceps, and 11 by turning; all the children so born by artificial means being born alive. The 80 births remaining were natural.

In the twin case (No. 187), there was *placenta prævia*, and both the children were turned; the ergot having been given after a foot of the first child was secured, and extraction delayed a quarter of an hour, the better to ensure arrest of hæmorrhage.

Thus, of 95 children born within *three quarters of an hour* after ergot, 92 were born alive, and 3 dead; viz., 2 putrid at birth, and 1 destroyed by premature hæmorrhagic labour.

All the mothers did well.

(B.) The *second group* includes those cases in which the child was born *within an hour*, but more than three quarters of an hour after the dose; there were 47 such cases, of which 9 were primiparous.

Of the 9 primiparæ of this group were born 4 boys, all living, and 5 girls, all living.

Of the 38 multiparæ were born 20 boys, of whom 2 were born dead; namely, 1 without any apparent cause (No. 2), and 1 destroyed by compression of the funis during the delivery of a hydrocephalic head in a footling labour (No. 67); and 18 girls, all living.

Of the deliveries in this group there was 1 case of feet presentation, resulting in a still-birth, as above described; 6 cases of vectis; and 1 of forceps, all resulting in live births.

Thus, of this group of 47 children born within an hour, but more than three quarters of an hour after ergot, 45 were born alive, and 2 dead.

All the mothers did well.

(C.) In the *third group*, consisting of those cases in which the child was born between *one and three hours*

after ergot, there were 84 labours, of which 27 were primiparous.

The 27 primiparæ produced 15 boys, of whom 1 was born dead, with cerebral congestion, after a very hard forceps delivery (No. 56); and 12 girls, all living.

The 57 multiparæ produced 33 boys, of whom 2 were born dead; viz., 1 after a labour attended with hæmorrhage (No. 5), and 1 after a difficult delivery with the vectis, the mother being in a bad state of health (No. 23); and 24 girls, of whom 1 was born dead, destroyed by compression of prolapsed funis (No. 240).

Modes of delivery in this group: natural, 47; vectis, 21; forceps, 9; turning, 7.

One mother died of puerperal fever on the seventeenth day (No. 217).

Thus, of the whole 84 children in this group, 80 were born alive, and 4 dead.

(D.) In the *fourth group*, consisting of those cases in which the child was born between *three and eleven hours* after ergot, there were only 17 cases, 7 of which were primiparous.

The 7 primiparæ produced 4 boys, of whom 1 was born dead, being putrid at birth (No. 19); and 3 girls, 1 of whom was born dead, in consequence of a latent compression of the funis (No. 16).

The 10 multiparæ produced 1 boy, living; and 9 girls, of whom 3 were born dead; viz., 2 putrid at birth (Nos. 182 and 239), and 1 destroyed by premature hæmorrhagic labour (No. 39).

In this last group, then, of 17 cases, 12 children were born alive, and 5 dead; viz., 3 putrid at birth, 1 destroyed by hæmorrhagic labour, and 1 by compression of funis.

Of the modes of delivery in the group there were 5 with the vectis, 3 with the forceps, 2 by turning, and 7 left to nature.

All the mothers did well.

The preponderating proportion of still-births in this—the protracted duration—group is more apparent than real.

Neither the ergot nor the duration of the labour could have influenced the result in the 3 putrid cases at any rate; and even if we allow that duration of the labour had any part in the matter, as regards the result in the other 2 cases, the ergot must be exonerated in exact proportion to the amount of blame attributable to duration, for it was clearly due to ergot that there were only 17 cases out of 242 in this protracted duration group.

To say that the danger depends on duration of labour *under ergot* is equivalent to saying, that the more active the operation of the drug or poison, the less the danger; for activity of ergot shortens the duration of the process.

Deville, whose prejudice against ergot is strong enough to make him regard even the results of my first series as so favorable that he doubts my veracity, adopts a somewhat different line of argument to that adopted by Danyau, whose prejudice is perhaps nearly as strong; for the latter professes his belief in the truth of my details, urging, however, that they *prove* the destructive effects of the drug. This little discrepancy between MM. Deville and Danyau is amusing as an example of the contradictory nature of the arguments adduced by those who endeavour to explain away facts. I subjoin a few examples of other contradictory doctrines and arguments.

MODE OF ACTION.

It kills the fœtus in utero by poisoning it directly.—*Hannotte Vernon.*[1]

The spastic contraction of the uterus induced by it interferes with the utero-placental circulation.—*Tyler Smith,*[2] *Johnston and Sinclair.*[3]

[1] In a series of papers published in the 'British Medical Journal,' Dec., 1857.

[2] 'A Manual of Obstetrics,' p. 459.

[3] Opus citatum.

EFFECTS ON FŒTAL PULSE.

It makes the pulse slower.—*Hannotte Vernon.*

It makes the pulse quicker.—*Tyler Smith.*

It weakens, or quickens, or injuriously affects the pulse.—*Johnston and Sinclair.*

WHEN IT MAY BE SAFELY GIVEN.

It is more safely given when the os uteri is rigidly closed.—'*Gazette Hebdomadaire.*'[1]

It is safe only when the os uteri is open, or very dilatable.—*Danyau,*[2] *and all Class-books.*

I cannot conclude this division of my subject without hazarding the remark that in most of the attempts to explain away the results of my practice with ergot there is, in addition to the contradictions of which I have just given a few specimens, so much of stipulation for favorable conditions, and for skill and prudence on the part of the accoucheur, as almost of itself to amount to an abandonment of the doctrine that ergot is *always* dangerous to the life of the child; for unfavorable conditions of a labour, and especially want of skill and prudence on the part of the accoucheur, may cause the death of the child without ergot at all.

This paper will scarcely be complete without some brief account of the effects of ergot on the mother. The following summary of the whole results as regards both mother and child will include that account.

GENERAL SUMMARY OF RESULTS AS REGARDS BOTH MOTHER AND CHILD.

A. *As to the Child.*

On 1033 children born during the whole series of experiments from January 1st, 1854, to June 30th, 1861, there were in all 50 still-births from all causes, of which 14 took

[1] Mai, 1856.

[2] 'Bulletin de l'Académie Impériale de Médecine,' Oct. 15th, 1850.

place after ergot had been given, on a total of 243 children born under its influence, as set forth more in detail in the following:

TABLE III.—*Summary of Still-births.*

Causes.	Total ergot and non-ergot.	Of which under ergot.
More or less putrid . . .	15	5
Craniotomy	3	0
Footling deliveries . . .	4	1
Prolapsed funis	5	1
Placenta prævia	4	1
Hæmorrhage during labour . .	3	2
Difficult instrumental deliveries .	2	2
Monsters	2	0
Dropsical fœtus	1	0
Diseased placenta . . .	2	0
Convulsions during labour . .	2	0
Evidence of latent compression of funis	1	1
The mother seriously ill . .	1	0
Cause not manifest . . .	5	1
Totals . . .	50	14

B. *As to the Mother.*

1. On the gross total of 1017 accouchements, 7 mothers died during the month, of whom only 1 had taken the ergot during her labour, on the net total of 242 ergot cases, as under:

Deaths of Mothers from all causes.

Causes.	Time of commencement of disease and of death.	No.	Ergot.
Mania . . .	Commencing 15th day; death on 20th day	2235	No
Phlegmasia dolens .	" 12th " " 20th "	2349	No
Peritonitis . . .	" 3rd " " 7th "	2863	No
Secondary hæmorrhage	" 6th " " 6th "	2987	No
Serous apoplexy . .	" 5th " " 6th "	3031	No
Diarrhœa, dysenteric .	" a month before lying-in; labour premature; death on 11th day	2300	No
Puerperal fever . .	Commencing 7th day; death on 17th day	3053	Yes

2. On the gross total of 1017 accouchements there were 18 cases in which the placenta was retained or adherent, so as to require the introduction of the hand for its removal; of these, 5 were after ergot of rye had been given to assist the labour.

3. On the same total of 1017 labours there were 25 cases of post-partum hæmorrhage, of which 5 took place after ergot of rye.

4. And, finally, with regard to diseases of the puerperal month, there were, on the gross total of 1017 labours, 30 cases requiring especial care, such as *puerperal fevers* more or less grave and alarming, *diarrhœa, dysentery, dysuria,* requiring catheterism; *mania, phlegmasia dolens, ephemeral fever,* and so forth, of which 9 cases followed where the ergot of rye had been given.

So that it would seem that ergot of rye has but little influence either in causing or preventing mischief to the mother.

Certain conditions have been prescribed which must be present to ensure the safety of mother and child, when the ergot of rye is to be ventured upon for the purpose of improving the quality of the pains of labour. These are—I quote from Deville's statement of the conditions laid down by Danyau in a Report presented to the Academy of Medicine several years ago—amplitude of pelvis; a favorable condition of the soft parts; absence of plethora; suitable size and favorable presentation of the fœtus; normal position, complete dilatation or extreme dilatability of the os uteri; absence of rigidity of perinæum and vulva; to which I may add, from the implied requirements of the reviewer in the 'Gazette Hebdomadaire,' the presence of the liquor amnii, that the child may thereby be protected from pressure. It may be seen from the tables of cases, that I have in my practice paid but little attention to these conditions, especially to the last of them.

What, then, have been my rules? Very few indeed. In the first place, the woman must be really in labour; otherwise a single dose of ergot produces no effect whatever, certainly no mischief. It is, probably, for that reason that

rupturing the membranes assists in bringing out the ergotic effect, as that proceeding pretty certainly induces labour—"*false*" pains soon becoming *real* ones. That premised, viz., that true labour shall be present, the only indication for the use of ergot is languid or inefficient uterine action. I care not whether the os uteri be rigid or supple; in the former case, ergot will very frequently remove the obstacle; for if ergot improves uterine action, it must be needed as much when the os uteri is rigid as when there is merely *inertia uteri*, rigidity of os uteri being most frequently a condition implying deficient uterine action. If efficient uterine action is likely to be dangerous to either mother or child, then ergot may be dangerous; for that reason I would never give the ergot without having first made sure that the presentation was such that uterine action will bring forth the child, or at least that the case should be manageable artificially as soon as uterine action came on. I would not, for example, give it in a case of arm-presentation, after the liquor amnii had been evacuated, for then turning would be rendered more difficult. It matters but little in what stage of the labour the ergot is given, so far as regards the well-being of either mother or child; whether the woman be multiparous or primiparous, or whether the liquor amnii be evacuated or not, provided in the latter case, as I have said above, that the presentation be all right. But it is essential that the accoucheur should be competent to meet with promptitude any sudden emergency that may arise (such as, in fact, occurred in cases 110 and 240 of my ergot series, in which a prolapsus of the funis being detected after the ergot was given, the life of the child was saved in the former of them by the immediate performance of turning, while, in the latter, that operation was unavailing), otherwise there will be danger; as, indeed, there will be, even if ergot have not been given.

I do not believe that ergot is dangerous to the life of the child; neither do I believe that it has any influence in causing parturient accidents or puerperal diseases. It certainly does not cause retention or incarceration of the pla-

centa, as has been alleged. With regard to its supposed powers in preventing certain parturient accidents, such as post-partum hæmorrhage, I do believe that, in so far as efficient uterine action is calculated to prevent such accidents, the ergot may be useful; and I think I have met with cases where post-partum hæmorrhage has been prevented in the persons of women who had in previous labours suffered from it. The same of after-pains—they are often caused by deficient or imperfect uterine action, which has permitted a quantity of coagula to accumulate in the uterus. In such cases I have, I think, known the ergot, when given during the labour, do good with women who had in previous labours suffered awfully from that cause. The effect of ergot on the mother, when given to her during labour, is to quicken that process; it improves but does not induce uterine action, and, therefore, may be given with advantage, even in cases of rigid os uteri, as I have already remarked. To maintain that ergot kills the child, because now and then a dead fœtus is expelled in a hard and protracted labour, in which ergot has been given, is simply an example of the wretched fallacy that mistakes the *post hoc* for the *propter hoc*.

I have now done with the subject. I have satisfied my own mind; and I trust that the facts and documents now laid before the Society will have some influence in satisfying the minds of others, and in removing a prejudice which has arisen I know not how, and which seems to have but little evidence from facts to support it.

I must, however, before closing this paper, explain that, by the word "*ergotic*," I mean a condition of uterine action in which the pains are more frequent, more active, and, in the last stage of labour, more expulsive. I do not mean by ergotic that the pains are continuous; they are very seldom so; they intermit pretty nearly as in natural labour; but the woman who is under the full influence of the drug will usually say that the pains never entirely leave her; she still feels *some* pain, even though the examining finger of the accoucheur may feel the head recede, and the tense edges of the os uteri become flaccid.

My dose of ergot has been a hastily prepared decoction of two drachms, ground to a coarse powder in a coffee-mill. When two doses are described in the tables as having been given, the second dose has usually been a drachm, given after an interval of two or three hours. I have latterly, however, found the medicine act better when the two drachms have been given in two doses, with an interval of half an hour between them. In such cases I have not described the instance as one in which more than one dose has been taken. From experience, I have learned to distrust all essences, tinctures, and powders of ergot, as sold by druggists, having generally found them quite inert.

Dr. Graily Hewitt thought the Society was under very great obligations to Dr. Uvedale West for the valuable paper now read. He felt bound to say that the details given were most complete, and the conclusions drawn by the author appeared to be most fully borne out by the data afforded. So far as these cases went, the innocuity of the ergot given must therefore be considered to be proved. With reference to the main question, it was impossible to consider what effect has ergot in producing still-birth without also considering what are the causes of still-birth generally? Observations recently placed on record by certain German authorities conclusively proved that, in a certain number of cases, children were still-born owing to intra-uterine respiration. Respiratory action was induced while the child was still in the uterus; the consequence being aspiration of amniotic fluid, meconium, &c., and suffocation. One of the causes of such intra-uterine respiration was probably the introduction of air from without acting on the surface of the child, and inciting respiratory action. At all events, the fact was undoubted, as pointed out by Schwartz, that such respiration might occur, and Breisky particularly had recorded cases in which examination of the child and the presence of aspirated matters in the air-tubes placed this beyond a doubt. It was therefore very important that in cases of still-birth this possible cause should be eliminated before the death was attributed to ergot, or indeed to any other cause.

Dr. Tyler Smith, while expressing the highest opinion of Dr. West as an accoucheur, felt obliged to dissent from his views in regard to the administration of ergot during labour. He could not consider the facts of his paper sufficient to outweigh the proofs which could be adduced to show the bad effects of ergot on the child. Dr. Ramsbotham's large fœtal mortality in cases of the induction of premature labour by means of ergot, and the enormous experience of the Dublin school of midwifery, already

proved that ergot considerably increased the rate of fœtal deaths. The statistics of Drs. Hardy, M'Clintock, Johnstone, and Sinclair, extending over many thousands of cases, were so convincing upon this point that it was a rule in the Dublin Lying-in Hospital to deliver the child by the forceps if it was not born within twenty minutes after ergot had been given. It might be a question whether ergot acted as a poison to the child, or whether it caused asphyxia by persistent contraction of the uterus; but of its deleterious influence he had no doubt. In his own practice he gave ergot to bring away the ovum in cases of abortion, and he always used it in cases of actual or threatened post-partum hæmorrhage, but he rarely, if ever, gave it during labour. He thought it might be laid down as a rule that ergot was a post-partum, but not an ante-partum remedy. He believed it could never be given safely except under circumstances in which the forceps were applicable, and he preferred the forceps, because, properly handled, they involved no risk either to the mother or the child. It appeared to him that Dr. West's conclusions were not borne out by his own statistics. With ergot he lost one in seventeen children; and without it, one in twenty—a difference of about one per cent.

Dr. J. Braxton Hicks, without entering into the question of the poisonous influence of ergot upon the child, felt sure that those who had seen much of consulting practice in poor districts, would bear him out in the assertion that occasionally the effect of that remedy was to cause the continuous contraction of the uterus in the circular direction, rather than in the longitudinal, whereby the child was so tightly clasped that it perished from pressure on the funis, although the pelves were of ample size.

Dr. Barnes thought that no subject was more worthy of discussion by the Society than the causes of still-birth; and Dr. West had brought forward the question of the influence of ergot upon fœtal life in a most admirable manner. Still he could not agree with Dr. West's general conclusion. He had entire confidence in the researches of Drs. Hardy and M'Clintock. These gentlemen had proved by auscultation that the heart began to intermit in its action soon after the exhibition of the ergot, and before any mechanical pressure was exerted upon the child's body. The toxicological influence of the ergot seemed established. But he had observed direct injurious effects; he had seen more than once the child driven with such violence through the pelvis as to rupture the perinæum. It was an inconvenience attending the use of ergot that from the moment it was given the practitioner lost his control over the labour; the action of the uterus might be excessive, and could not be moderated. The mortality of one in seventeen under ergot, related by Dr. West, must be regarded as excessive; it equalled that in the Dublin Lying-in Hospital, where an unusual proportion of putrid children were

born. The proportion in the Maternity Charity, where the patients were delivered with probably as little interference as possible, was three per cent. Dr. Granville, in his paper in the last volume of the 'Obstetrical Transactions,' gives about two per cent. as the proportion of still-births. He believed that wherever this proportion was much exceeded some abnormal cause acting unduly upon fœtal life might be suspected.

Dr. Hall Davis observed that the conclusion he had arrived at from an experience of thirty years was, that the ergot of rye was a powerful agent. He had seen one case, if not more, where rupture of the uterus was distinctly traceable to its exhibition in a small pelvis, and he had seen other evils from its use in improper cases. In his district of the Royal Maternity Charity he had a rule to restrain the midwives from using it without his permission in any case of protacted labour. He was not satisfied that we had proof of the poisonous influence of the ergot, although an examination of the blood in the still-born fœtus might enlighten us in this respect. He believed that the mortality of the children, which is certainly increased by its use, is chiefly due to its being given in cases of much resistance to the birth; and that the deaths are the result of pressure upon the child's body placed between the two opposing forces—that of parturition unduly excited, and that of an unyielding obstacle—and also of the circumstance that the uterine efforts occasioned by the ergot are continuous, instead of being divided by those intervals of relaxation and rest observed in natural labour, and so essential to the safety of the child.

Dr. Chowne regarded the paper as valuable, and he thought Dr. West's conclusions more favorable than were to be expected. His impression, however, was, that the ergot of rye required caution in its use. He did not think it exerted any poisonous effect upon the fœtus, at least he had never seen anything to countenance such a conclusion; but, by the continuous uterine contraction which it caused, it might do harm.

Dr. Uvedale West, in reply, observed that the different speakers had not addressed themselves to the facts of the paper, and that many of the remarks made were consequently *hors de cause*. With respect to the danger of the ergot in cases of rigid os uteri, he had no proof of it. It was very remarkable, that, by a critic writing in the 'Gazette Hebdomadaire,' this circumstance was stated as explanatory of the immunity of his (Dr. West's) saved children, as had been adverted to in the paper. The President's caution as to the necessity of delivering within twenty minutes after the ergot was given would be shown to be needless, if the tables were studied, the interval having been many hours in cases where the children were born alive. Lastly, he would observe, that the only object he had in bringing the subject forward was to arrive at the truth.

October 2nd, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—44 Fellows and 8 visitors.

The following gentlemen were duly elected Fellows of the Society:—Henry E. Eastlake, M.D., Fitzroy Square; F. G. Junker, M.D., Gower Street.

Mr. Spencer Wells exhibited

TWO OVARIAN CYSTS REMOVED BY OVARIOTOMY.

The first was removed from a single woman, twenty-seven years of age, who had never been tapped, on the 7th of August. It was merely a single cyst; but a small group of secondary cysts had led to the rejection of iodine injection. The cyst contained forty-four pints of fluid. The patient is quite well.

The second cyst was compound. The largest cavity had held twenty pints of fluid. The patient was single, thirty-five years of age, and had been tapped twice. Ovariotomy was performed on the 15th of August, and the patient rapidly recovered.

Mr. Spencer Wells also presented a

STONE FROM THE FEMALE BLADDER,

which he had removed the day before from a patient fifty-four years of age, after dilating the urethra by his fluid dilator. It weighed eight drachms and fifteen grains, but was easily removed. The chief point of interest to obstetricians was that the patient had been treated for several

years for supposed incurable disease of the uterus; but Dr. Savage, on being consulted, at once detected the true cause of the suffering, and requested Mr. Wells to remove it.

PELVIC CELLULITIS AFTER SECOND PREGNANCY, FOLLOWED BY SUPPURATION IN THE LEFT GROIN AND LEFT ANTERO-SUPERIOR FEMORAL REGION.

By N. C. Hatherly, M.D., M.R.C.S.E., &c.,
ASSISTANT-SURGEON TO THE ROYAL MARINE INFIRMARY, PLYMOUTH.

C. P—, æt. 29, of leuco-phlegmatic appearance, living in East Stonehouse, Devon, and married for seven years, was delivered of her second child on the 8th September, 1858. Her labour, I learnt from the gentleman who kindly attended her in my absence, had been easy, and occupied about five hours, and when he discontinued his visits, which he did at the end of a fortnight, she was doing well in every respect.

On my return from the country, about five weeks after her confinement, she sent for me, complaining of inability to walk, owing to increasing stiffness and slight pain of the left groin and left abdominal region, which, however, on careful examination, showed nothing unusual. This was followed, in a few days, by rather difficult and somewhat painful micturition; still nothing abnormal could be detected, and there were no constitutional symptoms present, except her very anæmic appearance. For the relief of the above condition, poppy-head stupes, with anodyne poultices, were applied, and an occasional Dover's powder at night, together with quinine and iron during the day. She, however, only derived temporary benefit from these measures.

December 5th.—There was slight fulness above the centre of Poupart's ligament of the left side, of a doughy feel, not easily defined, and not over tender, even to con-

siderable pressure. She also complained of some pelvic fulness. Vaginal examination showed nothing beyond an unusual sensitive condition of the canal. The case was now diagnosed by my friend Mr. Cutliffe, in consultation with myself, as "pelvic cellulitis." Rigors eventually took place, and suppuration gradually advanced; the tumour increased much in size and became acuminated, and was attended with considerable irritative fever. The secretion of milk had gradually ceased.

20th.—A valvular opening was made, and upwards of twelve ounces of healthy pus escaped.

25th.—The discharge, which had continued up to this date, suddenly ceased, and she complained of much pain in the upper femoral region of that side, just opposite the saphenous opening; and on examination it became evident that fluid was collecting there; this in a few days increased much, spreading downwards and laterally.

January 1st.—A valvular opening was made in the most depending part, the pus evacuated partially only, and the treatment usual in such cases adopted.

5th.—Symptoms of pyæmia appeared; the pulse very feeble and frequent, averaging 130 in a minute, and attended with nausea and great prostration.

This condition lasted for nearly three days, when she began to rally; the discharge decreased, and she daily improved under the use of a very generous diet, both of animal food and alcoholic stimulants, together with Tinct. Ferri Sesquichlor. and quinine.

The wound healed in about a month, and at the end of twelve weeks she was taken out for a drive, and continued to progress steadily. The catamenia reappeared in the fourth month.

Considerable stiffness of the hip-joint remained for nearly six months, when she was again able to walk about pretty well. She left Stonehouse shortly after; again became pregnant in about twelve months, and was safely and easily delivered of a fine child, and recovered from her labour without an untoward symptom.

HISTORICAL NOTES ON DISPLACEMENT OF THE UNIMPREGNATED UTERUS AS A CAUSE OF DISPLACEMENT OF THE GRAVID ORGAN.

By J. H. Aveling, M.D., Sheffield.

Morgagni appears to have been the first to point out this cause. The manner in which he arrived at it may be gathered from the following extract from his work on the seats and causes of diseases:[1]—"The ancients supposed the chief cause (of obliquity of the uterus) to consist in the contraction of the ligaments of one side, or even in the relaxation thereof; so that the sound part was drawn to the contracted, or the relaxed part to the sound. And this opinion I am at liberty to transfer from the adventitious disorders of these ligaments to those which may also exist from the original formation; and this in consequence of what I have seen in dissections. For, in the autumn of the year 1706, I found the ligaments of the left side shorter than those on the right, in a young virgin of Bologna; from whence the uterus inclined to the left side. And nothing forbids us to suppose that if the uterus, from any original or adventitious cause, be inclined to one side, in unimpregnated women, when they become pregnant it must hang to the same side, if nothing happens to prevent it. At least, it must of course hang to the same side for the first months of pregnancy. And as it has increased with that inclination, although afterwards it raises itself up above the ligaments, it is most probable it will continue to be inclined to the same side whereto it was before inclined." He also tells the reader not to suppose this cause rare, as he has met with displacements of the unimpregnated uterus very frequently.

Levret considered the most frequent cause of displacements to be the placenta, which he thought weighed the

[1] Book iii, Letter xlviii, Article 32.

uterus down on the side to which it was attached. The next most common cause after this, he continues, "is the original or accidental mal-conformation of the uterus, or o some of its parts, or even of those in its neighbourhood."[1]

Baudelocque also gives this latter, but thinks a more common one to be the accumulation of fæces in the rectum and colon.[2]

Hennemann also says that obliquity of the uterus arises from its own original conformation, or that of its ligaments.[3]

Jahn (James D.), among other causes of displacement of the gravid uterus, gives the following:—"As a cause of obliquity of the uterus, its primitive mal-conformation may be brought forward. It was our lot to observe such in a girl subjected to anatomical demonstrations by the illustrious and venerable teacher, Dom. Passell, whose description we will now give. A girl, about fourteen years old, who had died of worm-fever, was given up to our anatomical theatre. In examining the contents of the pelvis we found an abnormal formation of the uterus, which we thought well worth noting, and having a delineation of it. The bent uterus bore most exactly the image of a retort with a long and curved neck. Its fundus, raised on the right side, declined on the left; the body on the right side was turgid, and like the bottom of a flask; on the left side it ran down perpendicularly to the neck, which, very much bent, was placed on the left side of the vagina. When the uterus was dissected through the middle, its greater cavity seemed to be towards the right side, and by reason of the curved neck the internal orifice of the uterus was so compressed and narrowed, or rather quite shut up, so

[1] 'L'Art des Accouchements, &c.,' Paris, 1753, p. 104.

[2] 'System of Midwifery,' by Heath, vol. i, p. 180.

[3] 'Dissertatio de obliquitate uteri et postura infantis, &c.,' 1769, Schlegel.

as not to allow the passage of the finest probe. The external orifice of the uterus was well formed; and, as is commonly the case in girls not pregnant, the rima opened transversely. The right Fallopian tube was natural and permeable, and inserted high up above the tumefied body of the uterus; the left was tortuous and beset and obstructed by various little tumours, and was inserted much lower down; in the external genitals there was nothing unusual, except that the right nympha was much longer than the left, and hung outwardly. The hymen, closing the entrance of the vagina, nicely seen, was a thin membrane, open in the middle, with a small oval aperture. *Would the uterus thus formed have recovered its natural form by pregnancy? We hardly believe it.* And if it had retained that unnatural shape, it must have happened that in pregnancy it would have ascended obliquely, and have inclined to that side where, in a natural and unimpregnated state, the larger portion of the body was situated."[1]

Jahn (Frederick), another writer of the same name as the last, but whose dissertation was published two years later, says, "But even in the very uterus itself, like a snake in the grass, the determining cause of *retroflexion* may lurk. May not the uterus," he adds, "by some natural fault, be disposed to this declination by its first formation? So it seems. But if the observation of Saxtorph about an oblique virgin uterus be true, as it should be, there is no room for further doubt but that an innate disposition is given."[2]

Siebold, after alluding to the "placenta" theory of Levret, says: "But it is much more likely that oblique uterus may arise from all those things which prevent the uterus from extending itself freely in every direction, amongst which are to be enumerated original fault of conformation, &c."[3]

[1] 'Dissertatio de situ uteri obliquo,' 1785, Schlegel.

[2] 'Dissertatio de utero retroverso,' 1787, Schlegel.

[3] 'Dissertatio de præstantia situs commodi in partu præternaturali,' 1792, Schlegel.

Boivin and Dugès,[1] Deneux,[2] Dr. David Davis,[3] and others, recognise the possibility of impregnation taking place notwithstanding displacement of the uterus. The former describe the gradual reposition of the organ during the advance of pregnancy. Deneux relates a case in which the displacement returned, although it had been relieved for the time by pregnancy. Dr. Davis says, "Cases of chronic deflexions are to be considered as totally incurable by any efforts of art exclusively, without the aid of nature as exerted during the changes and developments referred to as special attributes of pregnancy."

Professor Simpson, in his admirable paper "On the Attitude and Positions of the Fœtus in Utero," gives, as one cause of malposition of the fœtus, "irregularity in the configuration of the uterus." He says—"Perhaps under the present head of causes I should notice the supposed effects of obliquities and flexions of the uterus in the production of mal-presentations. These obliquities and flexions, however, when they exist before pregnancy, generally become spontaneously rectified as utero-gestation advances; and thus do not ultimately interfere with the shape of the uterine cavity, or, through its shape, with the position of the child. But in those rare cases where the configuration of the uterine cavity remains altered by their influence, particularly in its lower or cervical parts, this altered configuration of the containing organ may occasionally affect the corresponding position and mode of presentation of the contained fœtus."[4]

Dr. Tyler Smith, in a paper read before this Society on the 7th of November, 1860, says—"My own attention became specially directed to the subject of retroversion of the gravid uterus in the following manner. I attended a lady, a patient of Sir Ranald Martin, who, in the unimpregnated state, suffered from complete retroversion or retro-

[1] 'Traité Pratique,' tom. i, p. 212.

[2] Ibid.

[3] 'Obstetric Medicine,' p. 595.

[4] 'Edinburgh Monthly Journal,' Jan., 1849, p. 423; and 'Obstetric Memoirs and Contributions,' vol. ii, p. 141.

flexion. She left this country, with the uterus retroverted, to join her husband in India. She soon became pregnant, and went the full time. The question suggested itself to me—What was the condition of the uterus in this case after impregnation occurred?—and I resolved to take any opportunities which might occur to me of answering it. I have now seen a considerable number of cases in which the retroverted uterus has become impregnated, and have carefully watched the progress of gestation under these circumstances. The result has been a conviction that the most common cause of retroversion of the gravid uterus is not to be found in the state of the pelvis or the condition of the bladder, but in the occurrence of impregnation in the retroverted uterus, and in the tendency of the organ thus impregnated to grow and develop itself during the early months of pregnancy, in the retroverted or retroflexed position. I may be allowed to state," he adds, "that I have taught this in my lectures for several years past, and published an outline of it in 1856. *I am not aware that any similar views have been published;* but on speaking of the matter, some time ago, to Dr. Oldham, he informed me that he had arrived at the same conclusion, from his own observations, and had taught it in his class."[1]

Dr. Skinner, of Liverpool, arrived also at the same conclusion, and published it at a meeting of the British Medical Association, July 29th, 1859.[2]

From these notes we learn that displacement of the unimpregnated uterus, as a cause of displacement of the gravid organ, was known and pointed out by Morgagni more than a hundred years ago, and that since that time several members of the profession have held the same views and have arrived at the same conclusions, unconscious that others have written on the subject before them. These latter can well afford to have their apparent honours taken away, and will with pleasure see them restored to the learned professor of Padua, who so little needs them.

[1] 'Transactions of the Obstetrical Society of London,' 1860, vol. ii, p. 292.
[2] 'British Medical Journal,' 1860, p. 518.

Dr. Tyler Smith observed that the object of the author seemed to be to show that his (Dr. Smith's) view of the cause of retroversion of the gravid uterus had been anticipated by Morgagni and others. His own paper, which had been referred to, was exclusively directed to the subject of retroversion; but it was remarkable that in the quotations given by Dr. Aveling there was not a single practical observation upon retroversion of the gravid uterus. The displacements referred to were the different forms of lateral obliquity of the pregnant organ. Only one of the authors cited spoke at all of retroflexion, and then in a purely speculative manner. His own view, as opposed to that of William Hunter, that retroversion of the gravid uterus was caused by the impregnation and development of the previously retroverted uterus, was published in 1856, and it had not yet been shown that this fact had been understood by previous writers.

ON THE INFLUENCE OF ABNORMAL PARTURITION, DIFFICULT LABOURS, PREMATURE BIRTH, AND ASPHYXIA NEONATORUM, ON THE MENTAL AND PHYSICAL CONDITION OF THE CHILD, ESPECIALLY IN RELATION TO DEFORMITIES.

By W. J. Little, M.D.

SENIOR-PHYSICIAN TO THE LONDON HOSPITAL; FOUNDER OF THE ROYAL ORTHOPÆDIC HOSPITAL; VISITING-PHYSICIAN TO ASYLUM FOR IDIOTS, EARLSWOOD; ETC.

(Communicated by Dr. Tyler Smith.)

Pathology has gradually taught that the fœtus in utero is subject to similar diseases to those which afflict the economy at later periods of existence. This is especially true if we turn to the study of the special class of abnormal conditions, which are termed deformities. We are acquainted, for example, with abundant instances of deformities arising *after* birth from disorders of the nervous system—disorders of nutrition, affecting the muscular and osseous structures, —disorders from malposition and violence. Each of these classes of deformity has its representative amongst the de-

formities which originate before birth, viz., congenital club-foot, congenital rickets, congenital degenerations of muscles, amputations in utero from strangulation by umbilical cord or adventitious bands, intra-uterine fractures, &c.

There is, however, an epoch of existence, viz., the period of birth, during which, at first sight, we might consider that the fœtal organism is subjected to conditions so different to those of its earlier and of its prospective later existence, that any untoward influences applied at this important juncture would affect the economy in a manner different to the influences at work during the periods ordinarily characterised as those of before birth and after birth.

The object of this communication is to show that the act of birth does occasionally imprint upon the nervous and muscular systems of the nascent infantile organism very serious and peculiar evils. When we investigate the evils in question, and their causative influences, we find that the same laws of pathology apply to diseases incidental to the act of birth as to those which originate before and after birth. We are, in fact, afforded another illustration that there exists no such thing as exceptional or special pathology.

Thirty-five years ago the pathology of deformities, if not invested with fable, was wrapped in obscurity; it was then scarcely perceived that the materials for extensive inductive observation existed.

Nearly twenty years ago, in a course of lectures published in the 'Lancet,' and more fully in a 'Treatise on Deformities,' published in 1853, I showed that premature birth, difficult labours, mechanical injuries during parturition to head and neck, where life had been saved, convulsions following the act of birth, were apt to be succeeded by a determinate affection of the limbs of the child, which I designated spastic rigidity of the limbs of new-born children, spastic rigidity from asphyxia neonatorum, and assimilated it to the trismus nascentium and the universal spastic rigidity sometimes produced at later periods of existence.

Dugès, Cruveilhier, Smellie, Davis, Evory Kennedy, Doherty, Weber and Hecker, who have described the con-

dition of stillborn children, suspended animation, asphyxia neonatorum and apoplexy of new-born children, are almost entirely silent respecting the after consequences to the infant, when not fatal. The first named is the only one who distinctly enunciates that hemiplegia and idiocy may follow injury received at birth. The others seem quite unaware that abnormal parturition, besides ending in death or recovery, not unfrequently has another termination, *i. e.* in the language of medical writers, has a third termination "in other diseases." My friends, Drs. West, Tyler Smith, and Barnes, have informed me that instances of such a termination of abnormal labour have not fallen under their notice. Dr. Ramsbotham says he can remember two instances. It is obvious that the great majority of apparently stillborn infants, whose lives are saved by the attendant accoucheur, recover unharmed from that condition. I have, however, witnessed so many cases of deformity, mental and physical, traceable to causes operative at birth, that I consider the subject worthy the notice of the Obstetrical Society. In orthopædic practice alone, during about twenty years, I have met with probably two hundred cases of spastic rigidity from this cause. I omit reckoning the subjects of idiot and other asylums, in which probably such cases abound, but of which I have been able to obtain no history. I revert to the subject at the present moment because I believe I am now enabled to form an opinion of the nature of the anatomical lesions and the particular abnormal event at birth on which the symptoms depend. Moreover, as the study of the proximate cause of the affections which I shall describe requires the light of such facts as the members of this Society have peculiar opportunities of supplying, I make no further apology for occupying the Society's time.

Before I describe the mental and physical derangements of the infant which can be referred to the effects of abnormal parturition and asphyxia at birth, I may be permitted to dwell upon the principal phenomena which occur in the fœtal organism immediately before, during, and immediately after, the act of normal parturition.

The fœtus, during the long nine months of its abode in

the uterus, has been justly regarded as being plunged into a deep sleep, giving no signs of existence as a semi-independent organism but by an occasional strictly reflex or convulsive movement of the limbs, and the pulsation of its heart during the later months of gestation. The materials for its nutrition, oxygenation of its blood, and the carrying off of the carbon, and probably of other residues of the metamorphosis of its tissues, being provided for by the intercourse which takes place between its blood and that of the mother at the placenta. With the commencement of normal parturition the long repose of the fœtus is broken in upon. The fœtus, during the uterine contractions, especially after evacuation of liquor amnii, is subjected, together with the placenta and umbilical cord, to a gradually increasing amount of pressure, through which it may reasonably be conjectured that the circulatory system, and consequently the capillary system, as of the lungs and nervous centres, are gradually prepared for the altered offices which are about to devolve upon them. This pressure is at first intermittent, the duration of the period of repose at first greatly exceeding the period of disturbance; as the final exit approaches, the pressure simply remits, until at length it is so considerable that prompt escape from the mother alone prevents mischievous results to the nascent organism. During the uterine contractions a certain amount of impediment to placental respiration or to placental interchange of material is unavoidable, so much of undecarbonized or deteriorated blood is contained in the fœtal tissues—amongst other tissues, in those of the excitor of respiratory acts, the medulla oblongata—as suffices to give notice to the medulla oblongata of the need of inspiratory movements and of the admission of air into the lungs. Hence is explained the first-observed phenomenon of normal, independent, extra-uterine existence, the effectual act of inspiration, accompanied with the welcomed, characteristic, expressive cry of the new-born child. The normal impediment to placental interchange reaches its maximum at the moment of birth. Should any departure from the normal act of birth take place, should the act of normal respiration not be established at the moment of birth, the

child presents itself in a state either of manifest death (stillborn), apparently stillborn, or in a state of more or less completely suspended animation, and does not utter the characteristic expressive cry of the new-born child.

The new-born child that has not yet attained to thorough independent existence tolerates a longer duration of suspended animation than the child in which pulmonary respiration has been thoroughly established or than the adult; yet reflection on the nature of a delay of only a few moments in the substitution of pulmonary for the ceased placental respiration would lead to the apprehension that even the want of a few breathings, if not fatal to the economy, may imprint a lasting injury upon it. The observations I have recorded of the direct connection between suspended animation at birth and mental and physical impairment of the individual, prove that the proportion of entire recoveries from the effects of asphyxia neonatorum is smaller than has hitherto been supposed.

It will be acknowledged that the state of things in the fœtus at the moment of birth, at the moment of entire withdrawal of placental or maternal circulatory influence, is one of imminent failure in decarbonization of the blood. If pulmonary respiration be not immediately established, the state of suspended animation—asphyxia neonatorum—takes place. From analogy with other forms of suffocation in later life, as from drowning, when the air-passages are suddenly and forcibly obstructed, suffocation also from inhalation of certain gases which exclude oxygen from the lungs, we may infer that the want of respiration in the new-born child is followed by stagnation of blood in all the large venous channels. We may direct our thoughts to the necessary consequences of blood stagnation in the sinuses of the brain, the venous plexuses surrounding the spinal cord, the venæ cavæ, the right side of heart, and the pulmonary system. We can apprehend the inevitable congestions of the capillary system of the brain and spinal cord, and a prompt result in death, if the mischievous circle of affairs is not relieved by suitable respiration.

The forms of abnormal parturition which I have observed

to precede certain mental and physical derangements of the infant consisted of difficult labours, *i.e.* unnatural presentations, tedious labours from rigidity of maternal passages or apertures, instrumental labours, labours in which turning was had recourse to, breech presentations, premature labours, and cases in which the umbilical cord had been entangled around the infant's neck or had fallen down before the head. To these abnormal forms of labour I believe Cases LII and LIII justify me in adding labours in which, from want of due attention immediately after birth or after expulsion from the mother, the child has been partially suffocated in the maternal secretions or under her clothes.

Doubtless in some of the instances I have recorded sufficient mechanical injury to head and neck was inflicted to account for whatever unfavorable consequences, whether these were fatal or not, may have ensued, but the more the facts I shall adduce are studied the more apparent, in my opinion, it will be that a larger proportion of infants, either dead, stillborn, apoplectic, or asphyxiated at birth, have been rendered so by interruption of the proper placental relation of the fœtus to the mother, and non-substitution of pulmonary respiration, than from direct mechanical injury to the brain and spinal cord.

Until quite recently the morbid anatomy of children dead at birth or shortly afterwards had been little recorded. Jadelot ('Traité des Maladies des Enfants de Michael Underwood', 1823, p. 67) says—"We never find effusion of blood, but only very considerable engorgement." Cruveilhier ('Anat. Pathol. sur l'Apoplexie des Nouveaux-nés') and Dr. Evory Kennedy ("On Cerebral Apoplexy of New-born Infants," 'Dublin Journal,' vol. x, p. 425) agree that effusion of blood takes place commonly on the surface or base of brain, never into the substance itself, and that in the majority even of fatal cases only intense turgescence of sinuses and veins, with extreme congestion of the capillary system, are found. Cruveilhier found in all cases the dura mater of spinal canal distended with fluid blood. The fullest contributions to the morbid anatomy of stillborn children have recently been made by C. Hecker, of Berlin, and F.

Weber, of Kiel. Hecker (Verhandlungen der Gesellschaft von Geburtskunde,' Berlin, 1853), after quoting Schmidt, Ritgen, Litzmann, and Krahmer, to the effect that children dying at birth or subsequently asphyxiated present numerous dotted, petechiæ-like ecchymoses on the surface of the lungs and diaphragm, gives a large number of his own dissections, proving beyond a doubt that punctiform ecchymoses are present, as a rule, on the serous surfaces of chest and abdomen, sometimes on the skin, besides intense congestion of viscera of chest and abdomen, blood extravasations between pericranium and cranium, the vessels and sinuses of brain gorged with blood, in children born dead, whether from interruption of placental or insufficient pulmonary respiration, *caused by pressure on umbilical cord, premature separation of placenta, and uterine hæmorrhage.* Hecker also found several times *in prematurely born* children, who had lived a longer or shorter time after birth, *similar ecchymoses on surfaces of lungs and heart.*

F. Weber ('Beiträge zur Pathologischen Anatomie der Neugebornen,' Kiel, 1851-54) found laceration of dura mater and effusion of blood between it and the bones, rupture of longitudinal and transverse sinuses of brain and considerable hæmorrhage on the surface and base of brain, sometimes sufficient to envelop cerebellum and oblongata in cases in which mechanical injury to bones of the head had occurred, whether or no instruments had been used to complete the delivery. But Weber found pretty generally the same tendency to punctated, capillary apoplexies, especially on the serous membranes of lungs, heart, brain, and spinal cord, as were first described by Hecker as a cause of death of newborn infants. The class of lesser injuries uniformly met with in death of child from abnormal labour was, according to Weber, great congestion of all the large veins and sinuses, intense congestion of surfaces of brain and spinal cord. In the spinal cord the small extravasations of blood and the congestion of pia mater were always greatest in the cervical and lumbar portions. Weber rationally accounts for the comparative unfrequency of capillary apoplexy of the brain in these dissections, on the ground that capillary apoplexy is

usually recovered from, whilst extravasated blood oftener kills. The sequel will show that capillary apoplexies of the nervous centres are probably the cause of, at least, one form of persistent deformity of limbs—general spastic rigidity, and that although capillary apoplexy may not commonly destroy life, its consequences seriously impair the organism.

Weber describes an autopsy similar to some of those of Hecker, in which the results of great congestion, apoplexy of the pleura, congestion of brain, bloody serum in ventricles, the cerebellum and medulla oblongata swimming in it, in a case of death through descent of umbilical cord, *no pelvic obstruction having existed.*

The detailed autopsies of Hecker and Weber, with the carefully appended histories of the nature of the fatal impediment at birth, have greatly facilitated an explanation of the spastic rigidity and paralysis of limbs, which appeared from my observations to be produced by so many different forms of unnatural parturition. The dissections of these obstetricians show the important fact that mechanical injury of the fœtal head, neck, or trunk, is not necessary for the production of intense congestion and blood extravasation of serous surfaces of chest, brain, and spinal cord. The other phenomenon commonly observed in difficult and abnormal parturition is that of interruption of placental respiration and circulation with non-substitution of pulmonary breathing and circulation. To this phenomenon alone, when mechanical injury or impediment has not existed, can we attribute the internal congestions, capillary extravasations, serous effusions which correspond with, or produce the symptoms of asphyxia, suspended animation, apoplexy, torpidity, tetanic spasms, convulsions of new-born children, and the spastic rigidity, paralysis, and idiocy subsequently witnessed. I am justified in regarding the dissections of Hecker and Weber as confirmatory of the opinion emitted by me, that asphyxia neonatorum, through resulting injury to nervous centres, is the cause of the commonest contractions which originate at the moment of birth, namely, more or less general sphastic rigidity, and sometimes of paralytic contraction.

The former class of affections may be described as impair-

ment of volition, with tonic rigidity and ultimately structural shortening, in varying degrees, of a few or many of the muscles of the body. Both lower extremities are more or less generally involved. (See plate.) Sometimes the affection of one limb only is observed by the parent, but examination usually shows a smaller degree of affection in the limb supposed to be sound. The contraction in the hips, knees, and ankles, is often considerable. The flexors and adductors of thighs, the flexors of knees, and the gastrocnemii, preponderate. In most cases, after a time, owing to structural shortening of the muscles and of the articular ligaments, and perhaps to some change of form of articular surfaces, the thighs cannot be completely abducted or extended, the knees cannot be straightened, nor can the heels be properly applied to the ground. The upper extremities are sometimes held down by preponderating action of pectorals, teres major and teres minor, and latissimus dorsi; the elbows are semi-flexed, the wrists partially flexed, pronated, and the fingers incapable of perfect voluntary direction. Sometimes the upper extremities appear unaffected with spasm or want of volition, sometimes a mere awkwardness in using them exists. Not unfrequently the parent reports that the hands were formerly affected. Participation of the muscles of trunk is sometimes shown by the shortened, flattened aspect of pectoral and abdominal surfaces, as compared with the more elongated and rounded form of the back. The prominence of back partially disappears on recumbency, but the greater weakness of muscles on dorsal aspect of trunk is obvious when the individual again attempts to sit upright. The muscles feel harder than natural to the age. Micturition is sometimes observed to be rare, and the bowels usually confined, either from deficient exercise of voluntary expulsive power or from implication of the sphincters. The muscles of speech are commonly involved, varying in degree from inability to utter correctly particular letters up to entire loss of articulating power. Sometimes articulation is only slow and difficult, like other acts of volition, the child or adult reminding us of a tardigrade animal. Sometimes the speech is nervous,

impulsive, or stuttering. Often during the earliest months of life deglutition is impaired, and the power of carrying saliva into the fauces is not acquired until late. The intellectual functions are sometimes quite unaffected, but in the majority of cases the intellect suffers—from the slightest impairment which the parent unwillingly acknowledges or fails to perceive up to entire imbecility. The functions of organic life are unexceptionably performed, except, perhaps, that of development of caloric, although the depression of temperature in later life is more probably dependent upon the want of proper exercise. The frame is often lean and wiry, but not wasted. On the contrary, it is generally well nourished. The appetite is good, the child is often described as the healthiest of the family. These subjects often lead a more precarious existence during the first weeks after birth, at first even vegetative existence languishes, sometimes, perhaps, because premature birth or difficult labour, by impairing the maternal supply of nutriment, renders more difficult the infant's recovery from the shock its system received at birth. However, in the majority of instances, after restoration of the vegetative functions, a gradual but slow amelioration of all the functions of animal life is perceived. Some cases present distinct convulsive twitchings of face or limbs during first days after birth, open or suppressed convulsions, opisthotonos, or laryngismus. In some instances the persistent rigidity of muscles commences or is observed shortly after birth, in others it escapes observation until the lapse of some weeks or months. The child's limbs are sometimes reported to have been simply weaker, to have shared in the general debility, the question of viability having alone occupied the attention of the attendants during the first month. Occasionally the weakness of the limbs has been recognised as a genuine paralysis in the first instance, of which the rigidity of muscles has been the sequel. Before the age of three or four months, though sometimes in slight cases not until ordinary time for walking arrives, the nurse perceives that the infant never thoroughly straightens the knees, that these cannot be properly depressed or separated, that she is unable to wash and

dress the infant with the ordinary facility, that the hands are not properly used. The upper extremities recover before the lower limbs. Sometimes the trunk is habitually stiffened, so that the infant is turned over in the lap "all of of a piece," as the nurse expresses it. Occasionally the head is habitually retracted. Where the symptom of convulsions or "inward convulsions" exists, the rigidity is attributed to the convulsions. In many cases convulsions have been absent. As the child approaches the period at which the first attempts at standing and progression should be made, it is observed to make no use of the limbs, or he is incapable of standing except on the toes, or the feet are disposed to cross each other. Even children slightly affected rarely "go alone" before three or four years of age, many are unable to raise themselves from the ground at that age, and others do not walk, even indifferently, at puberty. On examination, the surgeon finds that the soles of the feet are not properly applied to the ground, that the knees always incline inwardly, and continue bent. When locomotion is accomplished, the movements are characterised by inability to stand still and balance the body in erect attitude. In the best recoveries from *general* spastic rigidity, even in the adult, the gait is shuffling, stiff; each knee, by forcible spastic rubbing against its fellow, obstructs progression.

The external form of cranium occasionally exhibits departure from the normal or average type, such as general smallness of skull, depression of frontal or occipital region only, sometimes one lateral half of skull, sometimes of one half of occiput, or forehead only. In slight cases the head has been well developed.

In cases even with great inertia as to exercise of volition in any part of the body, common sensibility appears little, if at all, deficient. The child often, indeed, manifests uncommon sensitiveness to external impressions, even when approaching adolescence he is alarmed at trifling noises. The sleep after the first weeks of life is light, easily disturbed. Often there is extreme sensibility to touch, the whole condition reminding the observer of tetanus. In a few cases a distinct resemblance to severe chorea is percep-

tible. It is probable that some of the cases designated by authors congenital chorea have been cases of the affection I have described.

Amongst the more uncommon consequences of difficult or premature labour and asphyxia, I may refer to Cases XLVIII and XLIX, in which wry-neck apparently resulted from one or other of these causes, and Cases VII, X, XX, and others, in which a distinct hemiplegic contraction resulted. I have occasionally met with the slightest amount of single spastic talipes equinus referable to this cause. Such a case has commonly been attributed to dentition, a fit or illness during infancy, the first link in the pathological chain of nervous susceptibility caused by the asphyxia having been disregarded or overlooked.

A survey of the history of forty-seven cases, appended, shows that one fact is common to all the cases of persistent spastic rigidity of new-born children, namely, that some abnormal circumstance attended the act of parturition, or rather, the several processes concerned in separating the fœtus from the parent and its establishment in the world as an independent being. I cannot recall positively to mind, or find recorded in my journals, more than a single case in which this persistent *spastic* rigidity affected a numerous series of muscles of the trunk and extremities which could be unequivocally referred to any illness subsequent to the establishment of proper pulmonary respiration as its starting-point. Often it has been found that convulsions in infancy had occurred, to which the disease had been attributed. Spastic contraction of a single set of muscles, as the gastrocnemii of one or both limbs, commonly of one limb only, or of the muscles of the forearm and calf on one side, is certainly an everyday occurrence after infantile convulsions, convulsions *during* dentition, and during early childhood without convulsions or other marked illness. But general spastic rigidity I have, with one exception, found to have been preceded by some abnormal act connected with mode of birth. Occasionally several causes, either of which may be competent to produce cerebro-spinal disorder and deformity, may coexist. Thus, in Case XLIII uterine hæmor-

rhage occurred two months before labour; labour was tedious, accoucheur was absent at birth, the child was born with navel-string around neck and legs, and did not cry for an hour afterwards, and a large, hard substance, as large as another child—possibly a blasted twin conception—was discharged with the afterbirth. I may remark that asphyxia neonatorum, from whatever amount of disturbance in separation of fœtus from the uterus it may have resulted, is, as might be surmised, very apt to be accompanied with, and to be succeeded by, convulsions at variable periods after birth. It will be borne in mind that convulsions at birth, or subsequently to it, are but a symptom of lesion of nervous centre, and that we cannot refer one symptom of disorder of the nervous system to another symptom of the kind. The convulsions may doubtless react upon the nervous centres, upon the lungs and heart, and probably aggravate the disorder. North ('Practical Observations on the Convulsions of Infants,' 1826, p. 52)—says "It cannot be doubted that convulsions occasionally arise from excessive and long-continued pressure of the head during protracted labour. . . . . They generally pass off in a very short time after birth." But he adds, speaking of asphyxia, "If such an infant only partially recover, and convulsions succeed, the death of the child almost inevitably follows." Cases II, IV, XVII, XXII, XXXIV, and XLVI, in Appendix, are instances of recovery from such convulsions, and of production of subsequent spastic rigidity. North quotes Dr. Clark, to the effect that such children, if saved from immediate death, are liable to die suddenly in a fit of convulsions. I have witnessed several confirmations of this statement. Case III is an example of the kind. Baume ('Convulsions dans l'Enfance,' 1805, p. 69) makes a similar observation; and Smellie ('Midwifery,' 1772, vol. i, p. 230) alludes to convulsions before or soon after delivery from compression of head, to the danger, and ofttimes the destruction, of the child. Billard ('Diseases of Children,' translation of third French edition, 1839, p. 472), speaking of the morbid anatomy of diseases of cerebro-spinal apparatus developed

after birth, says—"The length of the labour, the necessary tractions in certain manœuvres, the difficulty with which respiration is established, the changes which the circulation undergoes, explain why the cerebro-spinal system is so often the seat of sanguineous congestions, varying from simple injection of the meninges to true apoplexy." At page 477 he remarks that in two thirds of the cases of convulsions in new-born children, examined post mortem, spinal meningitis was found; myelitis was less frequently met with. Billard was not aware that cerebro-spinal congestions and apoplexy occur in infants where the labour had not been difficult, tedious, or involved mechanical aid—after descent of and pressure upon umbilical cord only, for example. The Appendix shows that Brachet ('Traité des Convulsions des Enfans,' 1837, p. 97) is too absolute in the statement that "all the infants who are born after difficult and protracted labour are all, without exception, doomed to frequent convulsions."

It is impossible not to connect the persistent affections of the intellect, of volition, and of organic life, with the injury the several nervous centres suffered in some instances before the fœtus had reached the maternal pelvis, in others whilst in transit through it; and in a third set of cases, where the fœtus was exposed to neither of these kinds of injury, it suffered from asphyxia neonatorum, suspended animation, and its concomitant congestions, effusions, capillary apoplexies of brain, medulla oblongata, and spinal cord. Hitherto I have been afforded only one opportunity of learning the post-mortem condition of any of the cases of spastic rigidity which I have referred to asphyxia at birth, viz., Case LX, kindly furnished by my colleague, Dr. Down. It is certain that if, examined after death, after living many years, and such cases I find may live at least past the meridian of life, an anatomical condition very different from that present at or soon after birth would be found. Without going so far as Weber, as to assert that capillary apoplexies are necessarily absorbed when immediate death does not result from them, we may conclude that although the effused

blood-particles may be absorbed, permanent lesion—atrophy of the nervous tissue—results (see Case LX). Possibly a state of chronic meningitis, with effusion, or of chronic meningeal hyperæmia or congestion, or a certain amount of chronic myelitis, may maintain the spastic excitable tetanoid, sometimes choreal contractions, with rigidity of the trunk and extremities. My experience as Physician to the London Hospital has afforded me some facts which support the idea that spinal meningitic and myelitic affections may play a considerable part in the phenomena of spastic rigidity. Thus the only case of persistent general spastic rigidity of upper and lower extremities, commencing after adult age, which I had the opportunity of seeing at intervals during twenty years, and the general appearance of which appeared to me similar in many respects to spastic rigidity from asphyxia neonatorum, was found by me after death to have depended upon chronic spinal meningitis and myelitis. A case related by Cruveilhier, of pus found in medulla spinalis, in a case of death of infant on the fifth day, after difficult labour, supports this view.

The greater or smaller impairment of intellect may safely be attributed to the greater or less mischief inflicted upon the cerebrum. As already observed, the considerable extravasations of blood on the surface of the brain are usually fatal. The autopsy, Case LX, showing cicatrized apoplexies on surface and interior of brain, is an exception. The only fatal instance of partially stillborn infant, which I have had the opportunity of post-mortem examination, was one which came rapidly into the world, preceded by uterine hæmorrhage, nearly at full time, owing to fright to which the mother was exposed. Death of child ensued seventy hours after birth. In this case considerable effusion of blood was discovered in both ventricles of brain—a true apoplexy in the new-born child without mechanical injury. The autopsy, Case XLI, illustrates congestive apoplexy, no pelvic obstruction having existed.

I formerly found much difficulty in the analysis of various symptoms met with in different cases of spastic rigidity

traceable to something abnormal in the act of birth. It soon became apparent that the symptoms, *of the living* at least, attributable to mechanical injury of head were a minority of the whole. This is consistent with the remark of Ollivier ('Traité sur les Maladies de la Moelle Epinière,' vol. i, p. 152), that whilst at natural birth the spinal cord is perfectly developed, the brain is still in a very rudimentary state, and consequently able to bear considerable disturbance without ultimate injury to its functions. In fact, in the new-born child brain-life is entirely absent; any injury it may have received at birth is at that period unaccompanied with special brain-symptoms, and, if not too severe, the child may entirely recover. Ollivier says (p. 244) "the brain of the new-born child is often found softened and destroyed without any external sign having permitted the practitioner to suspect it during life." In the present day, with the experience we now possess of the causes of death at or shortly after birth, the accoucheur will suspect the existence of some form of apoplexy in every case.

The severe lesions caused by mechanical compression and laceration, and extensive hæmorrhages within the skull, when they do not destroy life, give rise to permanent deformity of cranium, to atrophy of injured portions of brain, and are the cause of many cases erroneously described as *congenital* idiocy. Dr. J. Crichton Browne ("Psychical Diseases of Early Life," 'Journal of Mental Science,' April, 1860) is one of the few observers who have traced idiocy to difficult labours (see also Dr. Howe, 'Causes of Idiocy,' Edinburgh, 1858). But in addition to the undoubted instances in which cranial injury and some imperfect development of intellect stand in the relation of cause and effect, the Appendix shows impaired intellect in Cases IV and VIII, in which no mechanical injury had taken place, but in which suspended animation, asphyxia neonatorum, and probably its consequent general and capillary congestion and ecchymoses—capillary apoplexies of the brain as well as of the spinal cord—perhaps even a moderate amount of larger apoplectic extravasation, had taken place, and had been im-

perfectly recovered from. I have observed that in impaired intellect from abnormal birth the degree of impairment met with in private practice often does not exceed feebleness of intellect; it varies much in degree, as elsewhere mentioned; it is often not sufficient to exclude the individual from family society. The individual may acquire a fair knowledge of music, the memory is good, the constructive tendency may exist, a fair capacity for arithmetic and languages may be displayed, but there commonly exists a great want of application, a slowness of intellect similar to the slowness of volition. In other cases, where intellectual powers are good, a preternatural impulsive nervous condition of mind exists, combined with an agitated, eager, anxious mode of performing acts of volition. Making every allowance for family peculiarities, there undoubtedly exists a considerable pathological resemblance, even in intellectual character and physiognomical expression, in these subjects of more or less general spastic rigidity. The occurrence of this feeble intellect in those who have not been exposed to mechanical injury of head, but in whom premature birth or pressure on umbilical cord has been recorded, appears explicable only on the supposition that the asphyxia and feebleness at birth had been followed by the usual capillary or larger hæmorrhage or effusions in brain, and their transformations and consequences to the nervous tissue; and the degree and variety of impaired function of brain may be due to the degree and variety of situation of these hæmorrhages.

The affections of the functions of organic life, the protracted inability to suck and swallow in a natural way, often observed during the first few weeks of life, the liability to "choking noises in the throat" and other signs of what may be classed under the name laryngismus stridulus, and the affections of speech dependent upon impaired innervation of glottis, pharynx, tongue, and lips, and consequent arrested development of some of these parts (larynx), may be referred to injury at base of brain and medulla oblongata. An occasional choke and gasp for breath, succeeded by a sigh, was described by the nurse of Miss N. (Case xxx) as having

continued to the date of the report, when the patient was twelve years old. Occasionally the injury to base of brain or medulla oblongata may have resulted from mechanical displacement of part of the occipital bone, as in some cases described by Dr. J. Marion Sims ('American Journal of Medical Science,' April, 1846) under the title of Tetanus of New-born Children; in Case LV of my own in Appendix the injury was consequent upon violent traction exercised to extricate head in breech presentation. But as in the explanation I have given of the causes of impaired intellect in relation to supposed injury to brain at birth, so I can show by reference to Cases IV, VI, XI, XII, and others, in Appendix, that mechanical injury to base of cranium and neck in those who survive is only exceptionally the cause of difficult deglutition, respiration, and speech, but that these important symptoms occur in practice oftenest, in cases in which suspended animation or asphyxia at birth took place without previous violence to head and neck rendering it probable that capillary apoplexy, serous or sanguineous effusion towards base of brain and in and around medulla oblongata, resulted from the general blood-stasis accompanying the asphyxia. Joerg (Kinderkrankheiten,' p. 387) says that immediate death, although the heart continues to pulsate for several minutes after birth, follows mechanical injury, such as stretching or twisting, of cervical vertebræ. Case LV, with which I was favoured by Dr. M'Intyre, of Odiham, and probably Cases XLVIII, by Mr. Brown, of Camberwell, and XLIX, show that children recover from the immediate consequences of considerable injury in this situation. Dr. Marion Sims (opus cit.) describes, under the head of Trismus nascentium, well-marked instances of spastic rigidity of new-born children. One case was that of a negro, a twin, the second born; labour was tedious, the child still-born, several minutes having elapsed before respiration was established. Tetanic symptoms were discovered on the sixth day, succeeded by death in ninety-six hours. At the autopsy "coagulum of blood was found occupying the whole length of spine, perfectly enveloping the medulla spinalis,

thicker as it approached the brain. Spinal veins full of black blood." Dr. Sims attaches no importance to the tedious labour nor to the asphyxia at birth. Of six cases of trismus of new-born children reported by him incidental mention is made of two of them having ensued after difficult labours. In some later cases of trismus nascentium published by Dr. Sims (opus cit., 1848), either inability to suck or stridulous breathing were observed soon after birth. It appears probable that the usually fatal disorder denominated trismus nascentium is often induced by the same causes—asphyxia at birth, and when recovered from has constituted the early stage of the condition which I have so often met with in older children, and have denominated spastic rigidity from asphyxia at birth. Abercrombie ('Diseases of Children,' sect. iv, Case 150) describes a case of spinal apoplexy of an infant who had been unable to suck and died with trismus and convulsions on the eleventh day. At Case 147 he speaks of hematorachis causing tetanus of new-born child. Weber (opus cit.), in death from trismus nascentium, always found the principal morbid appearances in spinal cord. Dr. Evory Kennedy (On Cerebral Apoplexy of New-born Infants, 'Dublin Journal,' vol. x, p. 429) relates a case of an infant which, after protracted birth and difficulty in establishment of its respiration, was seized on the second day after birth with general convulsions, hands clenched, screaming, abdominal muscles tense, respiration diaphragmatic, death on third day. At the autopsy, the vessels on hemispheres were much loaded, serous fluid abounded in spinal canal. The veins and membranes of medulla oblongata were excessively turgid and congested. Amongst some interesting cases reported by Dr. Doherty ('Dublin Journal,' vol. xxv) of asphyxia of new-born children (a title to which he objects because the individuals have never breathed), are several which I recognise as belonging to the more numerous class of recovered asphyxia cases which present themselves in later life. Thus Dr. Doherty's Case 19, asphyxia of two hours' duration, resulted from prolapse of funis. Fifteen hours after birth convulsions set in; death on the fifth day.

At autopsy—infiltration of blood into cellular tissue about dura mater of the cord, dura mater congested, vessels in spinal canal gorged, serous effusion in theca; sinuses of brain distended. *Blood between dura mater and parietal bones.* Dr. Doherty relates another case (Case 4) in which labour lasted three hours, funis expelled before head. Asphyxia reported, "followed by general tendency to spasm," said to have gradually recovered. The case, however, reappears as Case 28 a year afterwards, the child "never having been able since birth to hold up head." Dr. Doherty, however, doubts whether the symptoms were connected with the original transient apoplexy, as he properly designates the primary state. It was doubtless a case of asphyxia from descent of cord before head, accompanied with capillary or more extensive apoplexy or other effusion in nervous centres, followed by debility, paralysis, and spastic rigidity, similar to several of the cases I have appended. (Cases XIX, XLIII, XLV.)

Brachet, the author of the most complete work on the convulsions of children, relates a case of what he designates hereditary convulsions, overlooking the fact, which he incidentally mentions, that the child was semi-asphyxiated for half an hour after birth. He adds (p. 102), "I confess I could discover no exciting cause of the convulsions unless it were that M. Montain, the accoucheur, had been obliged to give the child some slaps on the buttocks to recall it to life." He adds, "Quelque peu de confiance que j'ajoute à ce cause, elle est la seule probable, surtout chez un enfant qui y etait disposé par sa constitution." Brachet also relates (p. 106) the case of a female child coming into the world after the mother had suffered two or three frights. The child's weakness was so great that the child did not cry for a fortnight, and swallowed with difficulty. This was succeeded by "convulsions neophytes de sauvages." She recovered, but he says, "pour la moindre cause elle tressaille et parait menacée de convulsions."

It will be remembered that early in this paper I described this great susceptibility to impressions, almost tetanic, as a common accompaniment of spastic rigidity from asphyxia neonatorum.

Reference to more than fifty cases of injury of mind or body from abnormal parturition which are appended, will show that whilst in many cases the subsequent symptoms indicated that the brain and medulla oblongata had permanently suffered, the only one of the nervous centres which invariably presented symptoms of lesion was the medulla spinalis.

If—from analogy with the contractions of limbs observed to follow well-known diseases of spinal cord in later life, and from the fact of capillary apoplexy, larger blood-extravasations, and serous effusions being met with after death in spinal cord of infants who have died still-born from premature birth, descent of funis before head, &c., without mechanical injury to head and neck—I am justified in referring the spastic rigidity which follows asphyxia at birth to lesion of spinal cord, and not to lesion of brain or medulla oblongata, it is obvious, from the greater frequency of this evidence of lesion of spinal cord than of lesion of brain and medulla oblongata, that from some cause this nervous centre suffers most often from the asphyxia, or least frequently recovers its integrity. It seems almost superfluous to add, as a further proof of non-dependence of spastic rigidity of limbs upon mechanical injury at birth, that the lower extremities are oftenest affected and are the slowest to recover, although they derive their nerve-power from the lower part of the spinal column, which is assuredly the part of the cerebro-spinal axis least obnoxious to mechanical injury.

When we consider the intimate pathological connection between spasm and paralysis it is remarkable that these cases of spastic rigidity from asphyxia at birth do not offer a decided combination of spasm and paralysis, such as is observed after ordinary cerebro-spinal disease in childhood. It is common, after such diseases, to find a child with one limb affected with paralysis or paralytic contraction and the opposite limb with spasmodic contraction.

As additional evidence of the dependence of the several states of brain, medulla oblongata, and medulla spinalis upon the asphyxia which so often attends abnormal parturition, I may recall to mind that recovery from asphyxia from choke-

damp, asphyxia from suspension, are apt to be followed by cerebro-spinal disease; and I may add that at several autopsies after the asphyxia of Asiatic cholera, I have witnessed small blood-extravasations on serous surfaces of lungs and heart. Experiments of submersion of animals show internal congestion and ecchymoses of serous surfaces as a consequence of that form of suffocation.

Joerg ('Kinderkrankheiten,' 1828, pp. 402—438) is the only author I have met with who distinctly enunciates that too early and unripe-born fœtuses present a state of weakness, persisting in the muscles until puberty or later. He says it interrupts use of muscles during first and second periods of life, as well in limbs as in carriage of head and trunk, often thereby causing curvatures of spine and legs. Ollivier was aware of the liability of the spinal cord to suffer after difficult labour, for he says (opus cit., p. 240), "The greater influence of the spinal cord at birth appears to continue during the first portion of extra-uterine existence, for affections of the spinal cord and its membranes sont assez communs dans les enfans *naissans.*" Ollivier also distinctly attributes the marked injection of membranes of spinal cord in new-born children examined by him to the embarrassment which respiration and circulation undergo at this period of life.

It will be observed that I have in this paper often employed the term asphyxia neonatorum nosologically, in its widest sense, embracing in it all the conditions of suspended animation in the new-born infant which have for their result to prevent the immediate establishment of proper respiration and circulation, whether or no the colour of the infant be pale or dark. It is probable, from analogy with the asphyxias of later life, that the dark colour of the surface is a measure of the embarrassment of the pulmonic and cardiac functions, the pallor indicating greater prostration and greater tendency to cessation of nerve-life and death. D. D. Davis ('Principles and Practice of Obstetric Medicine,' vol. ii, p. 1212) endeavours in vain to establish a difference in the aspect of the infant, according to whether the state

of suspended animation arises from asphyxia, asthenia, or apoplexy. C. A. Struve ('On Physical Education of Children,' translated by Willich, 1800) makes two kinds of apparently still-born, the adynamic and apoplectic. Joerg (opus cit., p. 402) recognises that the suspended animation is sometimes composed of two states, injury (mechanical) to head and want of air. It is apparent that the phenomena of suspended animation of infants after birth will permit of more extended observation by the members of the Obstetrical Society. Davis's view, that three states occur, asphyxia, asthenia, and apoplexy, is doubtless correct. It is, however, evident from that which I have already stated, that it is not yet possible before death to point out upon which of these three conditions the suspended animation depends. The want of breathing is manifest in all cases, asthenia may be present as a complication, and if the suspended animation terminates in death or in cerebro-spinal disorder, we may infer the existence of sanguineous congestions and apoplexies in the nervous centres.

This is the class of cases which, during the "Sensation" times of the promulgation of subcutaneous tenotomy, furnished opportunity to an able French orthopædic surgeon triumphantly to divide sixty or more muscles at one sitting. Happily, Stromeyer's operation of subcutaneous tenotomy rested upon a more secure foundation than could be overthrown by so great an abuse of it.

I trust the views of the pathology of the lesions of mind and body referable to the influence of the act of birth upon the child, which I hope to have somewhat unravelled, will promote the beneficial treatment of the disorders when detected in the early stages. In the later stages, the general principles of orthopædy, and mental training when the intellect is affected, are successfully applicable in the inverse proportion to the extent of the permanent disorganization of the nervous centres and of peripheral structures. The length to which this paper has already extended prevents my dwelling upon the subject of treatment. I have had many of these cases under observation from one to twenty years,

and may mention as an encouragement to other practitioners that treatment based upon physiology and rational therapeutics effects an amelioration surprising to those who have not watched such cases. Many of the most helpless have been restored to considerable activity and enjoyment of life. Even cases which exhibit impaired intellect may be benefited in mind and body to an unexpected extent.

When we reflect on the frequency of pulmonary engorgement and ecchymosis as well in the interior of the lungs as upon their surface, also the distension of venæ cavæ, the right side of heart, and the ecchymoses on pericardium, in the bodies of still-born children, it will appear not improbable that since one of the members of the tripod of life—the cerebro-spinal system—manifests defects in after-life referable to injury received at birth or to asphyxia neonatorum, in like manner partially still-born infants who recover with atalectasia pulmonum or with strained and injured hearts, may in after-life present anomalous affections of, or be prone to, pulmonary or cardiac disorder.

I would therefore suggest for inquiry, whether, for example, some cases of "congenital" cyanosis may not be induced at birth through impediment at this period to the normal substitution of infantile for the fœtal circulatory route, causing, for example, interruption of development and non-closure of foramen ovale. I am indebted to Mr. Curling for the following case. A youth, æt. 12 years, the second child born of parents not liable to asthmatic or other pulmonary complaints, did not cry immediately at birth, but received several vigorous slaps from the hand of the accoucheur before respiration was established. The child has from an early period of infancy been subject to considerable difficulty of breathing, and to attacks of acute dyspnœa on slightest cause. His asthmatic condition has puzzled several distinguished physicians who have seen him. Refuge has been taken in "*congenital* asthma." May not the starting point of the complaint have been injury to the capillary system or larger vessels of heart and lungs at the moment of birth?

The researches of Weber and Hecker into the morbid anatomy of still-born children testify also that the vascular system of the abdominal viscera undergoes disturbance, causing ecchymosis in those organs from the accidents attending birth.

It is further suggested, therefore, whether some of the ailments in these viscera, occasionally presenting themselves in the earliest periods of life, may not be due to causes similar to those which I have shown undoubtedly influence the cerebro-spinal system and its dependent organs. And lastly, as the general capillary system cannot be independent of that which affects the circulation of the brain, chest, and abdomen, there remains for consideration whether the nutrition and development of the muscles and peripheral nerves are not directly affected, independently of the influence of the nervous centres upon them, by the proved abnormal congestions sometimes accompanying the act of birth.

The first column in Appendix of Cases contains the No. by which the case is alluded to in this communication.

The second column contains the initials of the case, the sex, sometimes the date and name of physician or surgeon with whom the case was seen in consultation, and the number under which the case is recorded in my journal of similar and allied cases.

The third column records the age in years when I first saw the case.

The fourth column contains a literal transcript of the description of the case as entered in my journal at the time the case was first seen.

The fifth column contains the history, mainly in the words of the informant. It is, of course, impossible to vouch for the accuracy of informant as to child being six months' child, &c., to a week or two.

Occasionally the report is brought by author to the present time. This has not generally been done, in order to save space. The complete progress of the case was not required to be shown when treating of pathogeny.

Abstract of Cases of Spastic Rigidity.

I.	Esther T. (78.)	4	Contraction of flexors and adductors of lower extremities slight; left particularly affected.
II.	Frances Ann F. 1840. (80.)	7	Spastic rigidity of adductors and flexors of thighs, flexors of knees, and posterior muscles of legs; left most affected.
III.	Lydia C. April, 1844. (81.)	6	Spastic contraction of lower extremities; knees separable one foot. Gastrocnemii, especially left, much contracted. Left arm contracted, but extensible. Makes slight attempts to walk.
IV.	Jane B. April, 1845. (136.)	9	Spastic rigidity of gastrocnemii; slight of knees. Walking commenced at six years of age. Never balanced herself unaided, until use of high-heeled boots two years ago. Right arm inefficient through inability properly to supinate and extend it.
V.	Emma S. In consultation with Mr. Searle, 1845. (149.)	$3\frac{3}{4}$	Slight rigidity of thighs, knees, and gastrocnemii. Thighs cannot be thoroughly separated, knees can with difficulty be straightened, and the feet flexed only when the knees are bent. Right gastrocnemius more contracted. In 1850 reported equally contracted, left more deformed, owing to implication of foot adductors. "Hands less perfect than brothers and sisters."
VI.	Hannah D. Aug., 1845. Seen with Mr. Kisch. (159.)	11	Spastic contraction of lower extremities, flexors, especially of gastrocnemii, and adductors. Occasional strabismus; left slightly worse. Slight projection of sternum.

Labour Abnormal, or Premature, or Asphyxia at Birth.

Mother confined at seventh month of gestation through over-fatigue. Strabismus convergens of left eye.	A later child subject to fits; another never rallied at birth.
Mother's first pregnancy; at full period; labour tedious and difficult, but "straight." Mother suffered from fright two months before confinement; never felt movements of fœtus afterwards. Child in a state of stupor four or five days after birth, or alternately crying or convulsed. Unable to suck until five days old. Ran alone on toes at four years of age. Intellect unaffected. "Irritable nervous system." General appearance of irregular muscular action.	
Mother had great anxiety during gestation; a fright two days before confinement. Child insensible two or three days after birth. "Fits" after birth. Strabismus. Constipated. Says "mamma" and "papa" only. Expresses aversion and pleasure. Idiotic. Died one month after report, suddenly, in convulsions. Had previous convulsions occasionally, apparently excited by loaded stomach.	
Mother's third pregnancy. Suffered in health and spirits through death of a friend in her confinement. Child born at eighth month; was "the smallest infant" seen. Was apparently born perfect, but slept unusually during fourteen days. In convulsions from beginning of the third week to twelfth week; never free for five minutes during that period; *i.e.* not without "a hand, finger, or toe being convulsed." Strabismus. Speech difficult. Intellect feeble; memory good. Docile, affectionate, jealous. In 1846, one year after first report, "has had governess and rubber constantly employed in her mental and physical education. Is much improved in talking and walking, and use of hands; begins the piano; more cheerful; anxious to improve."	
Seventh month child. Weighed at birth 2 lb. 8 oz.; cried, and took breast directly. Intellect good. "Said to be precocious." Frontal region narrow; excitable, passionate. In 1850, reported to walk with difficulty, timid, afraid of falling; has grown stout, excellent health, very active. Formerly never accustomed to sleep well; at present sleep is good. When standing, principal defect is inversion of left foot.	
First child. Born three or four weeks before time. "Mother was a week in labour." Infant emaciated. Did not cry for three weeks, and then not as another child; "couldn't breathe;" suppressed cry (laryngismus); deglutition was difficult, and remains slightly so. Never had a fit when awake, but ever since birth the slightest noise, or other disturbance during sleep, would excite starting and stiffening of limbs. At age of nine or ten months began to improve. Was weaned at seven months. Showed signs	

VII.	Charles W. 1845. (170.)	7	Spastic contraction of right arm and leg, flexors, adductors, pronators.
VIII.	Elizabeth W. 1845. (188.)	$4\frac{1}{2}$	Spastic rigidity of lower limbs, flexors, and adductors, not extreme. Slight "weakness" of hands.
IX.	M. J., Male. (199.)	$3\frac{3}{4}$	Spastic contraction of lower extremities, flexors, and adductors. Slight contraction of upper extremities, *formerly observed.*
X.	George A. H. N. 1848. (265.)	$3\frac{1}{4}$	Spastic contraction, flexors, and pronators of right arm and leg. Backward in speech.
XI.	M. S., Male. 1849. (310.)	3	Contraction of gastrocnemii, both sides. Feet inclined to valgus. Doubtful whether spasm of muscles of calf, or paralysis, has existed; "probably only the result of the general muscular weakness observable in prematurely-born children."
XII.	M. M., Male. 1850. Dr. Elliott, Dublin. (340.)	14	Spastic contraction of both lower extremities; right most affected. Adductors of thighs contracted, so that knees separate seven inches and a half when thighs are extended, and eleven inches when thighs are flexed.
XIII.	Charles P. W. (392.)	11	Inordinate action of flexors and adductors of lower extremities.

of walking at three years old; always was weak in sitting up. Is round-shouldered, but no actual deformity of spine. Since age of five has walked with aid of hand on table, &c. Limbs always cold. Walks on toes unless reminded. Hands small; uses them perfectly. Everything done with hands and feet done with nervous quickness. Speech quick.

The face looks inclined to be idiotic, yet intellect appears good. In 1848 reported much improved, morally and physically; rarely raises heels; cannot walk quite unaided; starts like a narcotized frog when unexpectedly touched. Plays piano well. Subsequently went to reside in a hot climate, and reported to be much better in consequence.

Labour lasted twenty-four hours, without instruments. Artificial respiration required for a quarter of an hour after birth. When a month old spastic and clonic movements observed.

"Occasionally has a fit, which appears to affect throat only." Is never insensible in the fit. Habitual constipation. In 1847 "reads better."

First child, at seven months' gestation.

Observed in earliest infancy to be stiff in the limbs. Cannot walk alone; at three, moved with help of chairs. Crosses one leg over the other. Looks slightly imbecile. Noticed in 1855 that each patella, instead of occupying front of knee-joint, *i.e.* situated within or upon the trochlea of the femur, is drawn up in front of femurs above the trochlea. This makes it probable that this which I have called spastic contraction of flexors and adductors, in reality affects all the muscles, extensors as well as flexors, the flexors in some parts merely preponderating.

"Child came unexpected, at eight months."

A brother, aged seven years and a half, has slight contraction of muscles of planta, and the posterior leg muscles, *left side.* This originated at fifteen months, after two or three days' febrile indigestion.

Born at full period: underwent turning; did not rally for half an hour after birth.

Seen as lately as 1861. Appears to manage in society; not brilliant; obstinate. Walks like an adult who has rigid contraction from hemiplegia. Right arm still almost useless.

Born at eighth month. Weak since birth; night-screams; croupal cough and breathing. Takes less notice than usual at his age; laughs. Head inclined to heat!

Hands have been weak; now used properly. Did not sit up until eighteen months old. Bowels confined.

"Born at seventh month." At two years and a half walked with assistance. Deformity rapidly increased since age of nine or ten years.

Slight difficulty of utterance when nervous. Intellect good.

First conception. A twin, the first born; seven months and a half of gestation; labour protracted.

XIV.	Patrick A. (400.)	6½	Spastic contraction of hips very slight. " " knees slight. " " feet considerable.
XV.	Anastasia R. (405.)	10½	Spastic inability thoroughly to bend ankles.
XVI.	Henry S., 1852, in consultation with Mr. Brown, Stourport. (406.)	10	General spastic rigidity of lower limbs. Could never separate thighs.
XVII.	A Male, 1851, with Mr. Mallam, Hooknorton, and in 1861 with Mr. W. Adams.	6	General spastic rigidity, especially of right half of the body.
XVIII.	John T. (455.)	24	General spastic contraction. Right less affected.
XIX.	Frederick J. (457.)	16	Spastic contraction of both lower extremities and right arm. Left arm weak only, and left leg was originally less affected.
XX.	Miss R. (463.)	5	Spastic contraction of left arm and leg.
XXI.	Henry W. Dr. Gull, 1854. (484.)	5½	Severe spastic contraction of left arm and leg.
XXII.	Albert F. (485.)	3½	General spasmo-paralytic contraction: left side least affected.

Seven months' child. "No asphyxia mentioned."	
Third child; born at seven months; rallied half an hour after birth. Began to walk at two years. Was always weakly. Walked alone at three years and a half; shaky; gait always peculiar, liable to trip and fall. Intellect good, although head is small.	
Second child; seventh month of gestation; doubted for several days whether he would live; slept the first ten weeks, during which he did not appear to grow. Always weak. Began to walk at four years old. Had formerly peculiar way of throwing head back. Bowels very confined. Micturition difficult. Left testis not descended.	
First child. Asphyxiated half an hour after birth. The pressure, not instrumental, over the occiput so great as to cause sloughing over occipital protuberance. Did not suck first fourteen days; very feeble; unable to cry aloud; convulsions the first forty-eight hours. Dentition easy. Was a large child. Always unable to retain seat on knee of nurse. Twitchings of the limbs—choreal (?)—often observed, and left angle of mouth drawn down. At five years walked round the table, using it as a support. Report, 1861: Has grown tall and stout. More structural shortening. Increase of spasmodic jerkings. Less able to walk unsupported. Intellect impaired; cheerful; speaks distinctly, when he speaks slowly and is not agitated.	When aged 13 years, measure from ear to ear posteriorly, $6\frac{1}{2}$ in.; over vertex, $11\frac{1}{2}$ in.; in front, $10\frac{1}{2}$ in. Left hemisphere feels smaller. Distinct depression felt in right occipital region. Circumference of skull at eyebrows, $20\frac{1}{2}$ in.
Eight (?) months' child. Had no nails at birth; lay as if dead six weeks; uttered no cry until that time. Strabismus convergens, more marked in right eye. Strabismus in the family. Always remarkably confined in bowels. Remembers reading before he walked.	
At birth umbilical cord entangled neck; labour sudden; no signs of animation for ten minutes. Speech difficult: x, b, m worst letters. Observed never to sit up well.	
Foot presentation: legs and lower half of body born half an hour before head. Insensible two hours after birth. Is timid, nervous, falls with the slightest touch.	
Third child. Mother confined without any attendant; not seen to for many minutes; born three weeks before time; mother often had flooding before labour. Was very stout child. Unable to walk or sit safely on floor. Looks hearty and intelligent. Until recently extremely constipated. Can only say, "pony," "beer," and a few other words, imperfectly. Good letters, a, b, d, e, g, h, i, j, k, o, p, r, t = 13; imperfect, s, u; absent, c, f, l, m, n, q, v, w, x, y, z.	Convulsed in 1855 for four hours. Relieved by action of the bowels.
Small child born; nearly dead; remained in convulsions two or three days. Can neither stand, feed himself, nor speak; looks imbecile, though said to be intelligent; very obstinate.	

XXIII.	Clement F. (567.)	6	Spasmo-paralysis. Right most affected.
XXIV.	Gertrude P. (573.)	7¾	Spastic contraction of lower extremities. Hands awkward only.
XXV.	Alfred L. (576.)	7	Spastic contraction of right side.
XXVI.	Miss N. (579.)	5	Slight spasmo-paralysis of right side.
XXVII.	James B. (581.)	12	Slight spastic contraction of lower extremities. The peculiar lameness occurring in prematurely-born children slightly evident.
XXVIII.	Alex. L. (582.)	5	Spastic contraction of lower extremities.
XXIX.	Lucia H. (584.)	14 m.	General spasmo-paralysis. Uses left arm best.
XXX.	Miss N. (584.)	6½	Severe spasmo-paralytic contraction of lower extremities.
XXXI.	Emily T. (586.)	7½	Spasmo-paralytic contraction of left side.
XXXII.	Julia T. (591.)	13	Severe general spastic contraction, including wry-neck.
XXXIII.	Amelia S. Dr. Elliot, Stratford. (604.)	6½	Spastic contraction of lower extremities. Hands awkward.
XXXIV.	Henry A. In consultation with Dr. Roberts, Salisbury, 1859. (606.)	4	General contraction of lower extremities.

Eight months' child. Child born with many bladders on back and stomach. Great weakness in neck. Cried five minutes after birth. Eyes opened twelve hours after. Mother, much reduced by illness, scarcely sensible at the labour. Infant extremely small and delicate. Slept first month; took breast at end of first week.
Speech hesitating and indistinct; extremely short-sighted and nervous; easily startled. 1861: Very much improved.

Seven months' child. Asphyxia some minutes; feeble a long time.
Slight risus sardonicus; speech good, although lips look stiff. Is very "irritable."

Mother in labour twenty-four hours; instrumental. Child black, supposed to be dead; restored with difficulty. Did not cry for half an hour. Head out of shape; long and high.
Sudden noises uncommonly startle; is timid; can stand still, but has chorea-like movements.

Twin child, half the size of male child; was supposed to be dead; recovered under artificial respiration.

Born between eight and nine months. Mother believes child cried immediately.
Is cousin of 567. Slight strabismus.

Seven months' child. Was reported as dead.
Intellect very good; speech ditto.

Born at full period. Asphyxia two hours.

Eight months' child, twin. Was born dark from bad circulation; expected during first night to die every minute; did not cry when born.
Intellect good. Averse to lying on back, explained by tendency of body to roll on one side. Always confined in bowels; undue tendency to hold water.

Unusually large head; detained at brim and pelvis four hours; after pressing on perinæum seven or eight hours more elapsed. Partial asphyxia; gasping breathing two hours. Not dressed for five hours; cried vigorously at end of three.

Labour difficult. No asphyxia. Peculiar spasm of limbs, and falling of head to one side, observed directly after birth.

Very small child, born before time. No asphyxia mentioned. Had screaming fits at four weeks old. Always confined in bowels, especially first month.

Bad labour: twenty-four hours; forceps applied. Child asphyxiated two hours; was black, swollen, born with wound on left forehead. Did not cry for two hours. Would not have been known to be alive but by gentle movements of the chest. Was cold all the time, although hot flannels were constantly applied. On coming to at the end of two days, had a convulsive fit, a "twittering" of the cheeks, thumbs and hands slightly clenched. These

XXXV.	Dora H. In consultation with Mr. Adams, Harrington Square, N.W. (619.)	3½	Spastic contraction of lower extremities; confined to calves.
XXXVI.	William J. F. In consultation with Mr. Ballard, 1860. (629.)	14	General spastic contraction of upper and lower extremities; severe.
XXXVII.	George H. Dr. Sturges, Sydney Sq. (652.)	4¼	Spastic rigidity of lower extremities, with structural shortening of gastrocnemii. Can just move one leg before the other; right least affected; elevation of heel, and disposition to walk on upper part of metatarsus and toes (equinus extreme).
XXXVIII.	Charles H. B. (659.)	7	Rigid contraction of left elbow and wrist. Left tendo Achillis has been operated on for contraction in Bermuda.
XXXIX.	Mary B. B. June, 1860. (664.)	2¼	Spastic rigidity and debility of muscular system. Right hand severely contracted; left

fits lasted, off and on, quite three weeks. Had no idea of sucking for six weeks. At first a single drop of milk put into the mouth caused great difficulty of swallowing. At present swallows more slowly than other children. Until a year ago would look frightened, pale, seem to have struggle in throat for an instant, then laugh as if relieved from some suffering. Intellect feeble, but actively notices objects. Tenotomy was performed one year ago. Bowels did not come right for two months. Liver extremely torpid. Head now somewhat conical in shape.

At six months had every night, once or oftener, a fearful peculiar scream. At nine months old had convulsive fit of thirty-six hours' duration.

September, 1861: reported to have walked alone within last two months. Intelligence much improved.

Seven months' child. Lost blood from navel string. Moaned at birth. Expected not to live the first three days. Spent most time asleep. Limbs always crossed. Structural shortening of tendons and muscles observed when eight months old.

Strabismus observed during teething. No convulsions.

First child, full time, "cross birth;" was turned and brought down by feet. Labour lasted thirty-six to forty hours; thought to have been injured at birth; did not cry for two hours; very dark; "lay for hours without taking notice;" unable to suck for a week. Mother noticed nothing else the matter, except that his head leaned to the left. Never would lie on floor, as if frightened; can crawl; has never walked. Still has difficulty of swallowing; a "choking."

Left side of head smaller. Maxillæ large, especially upper. Nothing wrong with sphincters, except that he wets himself when excited. Weak intellect; can read an easy book. Speech tolerably distinct. Can write badly. Is moveable like a stiff skeleton. Sits badly, round-shouldered. Head inclines to left.

Father died of apoplexy. Family history otherwise good. Five brothers and sisters healthy.

First child. Said to have been born two months before time. Nails were perfect. Cried lustily at birth for ten minutes. Unable to suck for six weeks.

Sphincters always good. Considerable hollow in each inframammary region, more remarked owing to developed form of triangle resulting from both pectorales. Stoops much; occasionally squints; "snorts much in sleep;" often rejects food by nostrils. Intellect and speech reported good; "speaks in a babyish, lisping manner."

Head and right-shoulder presentation; at full time; labour three hours. Mother healthy. Child's head lay upon right shoulder the first nine days after birth. After this date the parents observed head to grow up straight. The feet were much swelled the second day after birth. When born was very cold and weak; was put into a hot brandy-and-water bath.

Had a fit at age of eighteen months; the weakness of the right leg was noticed before the fit. Parents had rubbed that limb with dry mustard a month before the fit. Walked alone at three years old. Looks, and is reported, intelligent.

Cross birth. Chin presentation. Instruments used. Child's face was lacerated. Full time. First child. Mother was fright-

			hand much less contracted. Lower extremities very helpless.
XL.	V. F. P. Male. In consultation with Dr. Page and Mr. Pearse, Bodmin, June, 1860. (665.)	9 weeks.	Spastic contraction in active stage. Right hand most contracted; left hand less contracted; knees and elbows slightly contracted; thumb (right) drawn into palm; feet inclined to calcaneus; no structural shortening.
XLI.	Jemima M. B. (666.)	15	Spastic contraction of shoulder. Latiss. dorsi, pectorales, teres major and minor. Ditto of elbow, which is usually extended. Ditto of wrist, especially of flexor carpi ulnaris and radialis, also of fingers. Right side only. "Leg was similarly affected until quite recently. Still walks on toes at times." Is worse when she wills to use it.
XLII.	Joseph W. P. In consultation with Dr. Girdwood, June, 1860. (668.)	3	Spastic contraction of flexors and adductors of lower extremities. Hands never affected. No atrophy. Unable to stand or walk.

ened three months before confinement by severe accidental injuries to her husband. Mother, aged forty, died four weeks after confinement. Child was baptised immediately after birth, because not expected to live. Had threatening of a fit a week ago; never had a fit before.

Uses left hand. Tries to put one foot before the other. Back very round. Head "falls" back, and often to right shoulder. Cucullaris muscles thick and contracted. Intellect reported perfect. Expression of upper part of face good. Says "uncle" and "aunt." Knows every article in Noah's Ark when asked for it. Irritable, nervous, passionate; teeth cut early; decaying rapidly, and breaking off.

First child. Labour of eighty-three hours' duration; presentation natural. Child thought to be dead; very black. The mother, six weeks after conception, was "nearly thrown from horse." Mr. Pearse reports: Cause of difficult labour was rigidity of parts, and that infant recovered quickly from the asphyxia, and that head suffered much compression. Umbilical cord was dropsical, and placenta adherent.

Child's face resembles that of many idiotic children in largeness of tongue and its protrusion, and low shelving forehead. Head lozenge-shaped, projecting much backwards. Left frontal region smaller than right. Makes gurgling, choking noises. Swallows well. Peculiar prominence of sternal cartilages of right ribs. July, 1861, *i. e.* fifteen months later, is reported to have walked alone three weeks ago, and to have no sign of malformation or contraction whatever. Is a large and strong child.

First child. Labour tedious, two or three days. Did not cry at birth. Back of head supposed to have been injured. Child constantly convulsed first three or four days; not since. Arm first noticed to be stiff when dressing infant.

Speech slightly affected. Eye ditto.

First child. Child born after six omissions of catamenia, supposed at "ten weeks before proper time; had no nails." Labour lasted two days. Mother confined without assistance, because birth was "quick at the last." Was a quarter of an hour without assistance. Child did not cry until removed from mother; was black for days, certainly was so for three days; was thought to be dead when put into hot bath; took breast after third day; used to choke with the least thing. During first ten days was "drawn" about the face, and "nurse used to think that he would never get breath again." Was "startlish." Had distinct convulsions from second to fifth or sixth week; also when cutting eye-teeth at age of fourteen months.

Seems intelligent; but mother reports he can only say "mamma, baby, and a few other words." Has lately improved. Imitates other children; crawls after ball and throws it. High prominent broad forehead. Left side of cranium less developed in parietal and occipital regions. External frontal eminences developed as often seen in children who have had hydrocephalus. Mother says head was not large at birth. Left limb reported stiffer than the right, but right is more contracted. Back round and prominent;

XLIII.	Arthur S. Mr. Complin, July, 1860. (676.)	4	Contraction of adductors and flexors of lower extremities. Left hand weak. "Twists in a singular manner both wrists." More paralytic than spastic.
XLIV.	Lucy W. (687.)	9	General spastic rigidity of lower extremities. Left reported to be most affected. Hands awkward, but not contracted; sews pretty well; subject to slight trembling of hands.
XLV.	Francis W. (688.)	9	General spastic rigidity of lower limbs. Right weakest and more contracted. Hands awkward, and slightly pronated. Contraction of feet increased during last two years.
XLVI.	John B. W. (689.)	5	Spastic contraction of both gastrocnemii, particularly of left, much increased on locomotion. Hands awkward, and pronated to slight extent. Left side of head appears flatter, but doubtful.

increased when he is sitting on floor and poplitea are made to touch floor. When prone, back is straight. July, 1860: Legs cross. Total height, thirty-two and a half inches. From ground to top of trochanter, fourteen inches. Legs therefore relatively short. Can walk round chair, holding on to it. June, 1861: Has picked up many words.

Fourteenth child. At seventh month "catamenia" reappeared. Labour forty-eight hours. Accoucheur attended, but was absent at birth. Child born with navel string about neck and legs. A hard substance, as large as another child, discharged with after-birth. Child did not cry until one hour after birth, not until navel string was severed. Child was very small. Suckled as soon as washed. During first three months screamed much.

Can shuffle on belly; has raised himself by fire-guard. Always swallowed well; sphincters correct; speech perfect; quite intelligent; spine yields backwards in dorso-lumbar region, and to left side. September, 1861: Is improving. (December, 1861: Can now support himself almost upright against chair, and walk round it. See Plate VII.)

Born at seventh month. Midwife left the child; at first thought it was dead. No particulars of asphyxia. Took the breast the day following birth. Mother observed difficulty of separating limbs four weeks after the birth.

Well-formed head. Slight squint. Pupils large. Intelligence a little backward; no particular faculty deficient; "has not had a chance of learning;" not been to school; reads well in Testament.

Eighth and last child. Birth at full time, easy; was "still-born," the cord twisted twice around neck. Remained a long time dark blue; did not cry or suck until next day; very slight, scarcely noticeable convulsions, *i. e.* clenching of hands, and closing or puckering of mouth, observed at three months old, always after nursing him. The first peculiarity noticed was, that head was not held erect. Mother remembers the difficulty of separating thighs when washing him. Can't sit.

Left side of head appears slightly flatter, but not more than sometimes perceived in children who have had infantile paralysis. Intellect reported good, but is certainly below average. He looks intelligent. At times very intelligent in his observations. Mother never noticed deficiency, and she is a very sensible person. He has little application.

First child. Mother aged thirty-five. Rigid uterus. Labour thirty-two hours, at full period. Delivery by forceps, after twenty minutes' application of them. Child born with laceration at external right frontal eminence and behind ear; did not rally for three hours; warm bath used; no remarkable colour observed; convulsed during first fortnight. Did not suck until a month old; deglutition very difficult. Convulsion of hands was so considerable as to require padding of the palms. At three months old strabismus occurred in one night; no convulsion at that time. Had return of convulsion, caused by too hearty a meal, at fifteen months old, which left him no worse than before. Right eye principally strabismic. It appears large; palpebræ are more open.

XLVII.	Z. S. Male. July, 1861, Mr. Turner, Deddington. (712.)	3	Spastic rigidity of both lower extremities. Left worse. Arms and hands not affected. (See Plate VI.)

Abstract of Cases of Wry Neck, from Abnormal

XLVIII.	Miss A. With Mr. Brown, Camberwell. (575.)	8	Right sterno-cleido mastoideus contracted; unyielding; one inch and a half shorter than sound side. Vertebral column below neck apparently straight, but want of symmetry of back, chest, and loins observable; left iliaco-lumbar region more hollow. Left side of chest posteriorly more prominent.
XLIX.	Mast. J. S. (563.)	10	Wry neck.

Abstract of Cases of Spastic Rigidity,

L.	John F. P. In consultation with Mr. Hollis, Lewisham, 1844. (79.)	3¾	Spastic contraction of gastrocnemii, flexors of knees, adductors of thighs, not severe. Cannot walk unassisted; toes inverted during locomotion; knees separable eight inches. Imperfect volition in hands, apt to drop things; trembles. No signs of ordinary paralysis.

Walks a mile or two, being led. Sphincters natural. Cheerful, tractable, timid, formerly afraid of falling backwards. Knows twenty words; cannot say alphabet. When excited is powerless and much more contracted. Is a large child. Mother no particular illness or accident during gestation. First child; seven months' child. Did not cry until thirty-six hours after birth; was not expected to live; had no flesh on him. Slept the greater part of first two months. Did not take breast until seventy hours after birth. Dentition early and favorable. "At eighteen months used to wake up screaming, frightened, stiffened." Mr. Turner confirms statement of premature birth between "seventh and eighth month." He never observed convulsions. Physiognomy of child when first seen suggested the complex of symptoms observed in spastic rigidity (neonatorum); seems intelligent; speech perfectly good. Formerly much confined in bowels. When first put to the ground, appeared to be more drawn up directly he touched the ground, as if he did not like it. Is irritable. After the long sleep of the first two months of life awoke at the slightest noise or disturbance. Parents are first cousins. A second, also a seven months' child, died two hours after birth; this child looked black, but cried immediately, and was convulsed.	

Labour, or from Asphyxia at Birth.

First child. Born at full period; breech presentation; turning resorted to. Supposed to have suffered injury to neck at birth. Deformity not observed until two years old. Division of sterno-mastoid; mechanical extension; manipulations. Cure.	
First child. Breech presentation. Slight asphyxia at birth. Force having been used, it was supposed that neck was injured.	

suspected to be from Asphyxia neonatorum.

"Heavy fit of illness" when cutting first tooth. Some difficulty of speech; occasional strabismus. Formerly strabismus was constant. When he is pleased, he stretches hands as an infant during excitement.	

LI.	John T. 1849. With Dr. Marshall Hall. (309.)	2	Slight spastic contraction of lower extremities.
LII.	Maude M. (440.)	7	Spastic stiffness of lower extremities; no structural shortening. Choreal (?) trembling.
LIII.	Cecilia R. (261.)	2½	Spastic action of gastrocnemii, excited by contact with ground. Right most affected. Right hand weaker; left-handed. Right pronators contracted. No structural shortening of gastrocnemii.
LIV.	John C. In-patient London Hospital, July, 1861. Reported by Mr. Morel Mackenzie, Resident Medical Officer.	2½	Spastic rigidity of upper and lower extremities, at times relaxing or presenting itself as gentle clonic convulsions of hands and feet. Thumbs always rigidly bent; knees crossed. Right side rather more affected. Emprosthotonos. Cries when placed on back. Tension of abdominal muscles and flexor muscles of thighs prevents flattening out of trunk. Some difficulty of deglutition. Cannot articulate. Forehead receding; flattening of parietal regions. Appears to take much notice of objects.

Abstract of Cases, Muscular Debility, or Paralysis, from

LV.	Miss F. S. In consultation with Dr. MacIntyre, Odiham, 1847. (241.)	3½	Laxity of neck, so that head has inclined since birth to right shoulder. All the limbs feel relaxed, but no distinct paralysis, and no contraction; tendency to predominance of pronation of hands. Can stand against wall; falls if attention be abstracted. Can utter a few words, and looks intelligent. Deglutition of fluids difficult.

Convulsions, when a month old, for one week. Ditto for many weeks, when three months old. Dentition late, but unaccompanied with fits. Crowing breathing from earliest infancy until twenty months old. Right side most affected; hand has recovered. It is difficult to say whether this case should not be termed spasmo-paralysis. The spasm is slight, and he is reported to have had more marked paralysis formerly.	
Convulsions during first fortnight after birth.	
Mother confined without help. Umbilical cord tied twenty minutes afterwards. Cried incessantly for weeks after birth. Mother remarked that, as an infant, she would never lie on either side, always on back. "Always sleepless; child excitable, timid, nervous; a sudden noise, cough, sneeze, or closing of a door, throws her into a paroxysm of fear."	Well nourished; looks inclined to idiocy, but memory good. Speech good. Walks, with help, on toes. Cannot crawl. Back weak.
Is the child of gipsy parents; second child. Mother was confined at night, on a common, in February, unattended. Child was not "attended to" for three hours; the cold during this time was intense. The child screamed occasionally during the three hours it was neglected. Appears well nourished. Unusually sensitive, shown when either kindly spoken to, or reprimanded; also by the pleasure he feels on being tickled, or the intense pain he suffers on being even gently pinched. Unable to stand or crawl. [This case was diagnosed, from physiognomy and general condition, to be suffering from cerebro-spinal disturbance, induced at or soon after birth. The more active suffering indicated spinal arachnitic or myelitic mischief still progressing. Was much relieved in ten days by small doses of Hyd. c. Creta and Extr. Belladonnæ, with counter-irritation. A great part of the evil will probably prove persistent.]	

Abnormal Labour, or Premature Birth, or Asphyxia neonatorum.

Dr. MacIntyre reports that birth occurred at nine months; it was a breech case. He reached the mother's side a quarter of an hour after the birth; some difficulty had been experienced in withdrawing head; ligaments of neck and medulla were supposed by Dr. MacIntyre to have been strained. Asphyxia lasted from one and a half to two hours. Child was recovered from this state by the constant exertions of Dr. MacIntyre, including the use of artificial respiration. Reported June, 1848: Improved in every respect, but still unable to walk. Reported November, 1849: Still further improvement. No contraction, except of adductors of thighs. Walks, nurse holding hands. Stands alone at sofa. Knees cross. Intelligence developing; spells a few short words; has feeble but correct use of hands. Reported April, 1852; Still uses go-cart.	

LVI.	Miss F. E. S. (678.)	12½	Paralytic atrophy of right half of chest, and right upper extremity. Sternum depressed. Cartilages of ribs prominent. Genua valga slight, principally of right. Two or three dorsal vertebræ slightly inclined from straight line.
LVII.	Mary B. (661.)	2¼	Very slight general paralytic (?) weakness of muscular system (as far as I can diagnose. W. J. L.). Perhaps back somewhat weak. Right knee slight genu valg. Both feet said to have been inclined to valgus on beginning to walk. Now walks very well.
LVIII.	Mast. G. A. (228.)	3	Weakness of right upper extremity, greatest in shoulder, less of elbow, least of hand; no contraction. Scapula and entire extremity smaller.

Abstract of Case of Convulsions, from

LIX.	Henry F. (626.)	11 mths.	Complete paralysis of right lower extremity. Tendency to contraction of sole and calf muscles.

Is held on a pony; unable to crawl. Adductors of thighs much contracted; choreal movements occasionally observed. September, 1861.—Reported to have had some attacks of convulsions soon after last report; all remedials consequently suspended. Is now unable to stand or walk. Legs contracted and inverted. Hands very unsteady, so as to incapacitate from holding anything. Articulation unintelligible except to those accustomed to her. Swallowing of liquid difficult. She has grown much. Mental faculties sound; vision imperfect, though able to read books of large type. Amiable, cheerful disposition. Now eighteen years of age.

Second child, only ten and a half months older than the first. "Was born at eighth month; was very small, like a doll;" scarcely cried; slept greater part of first six (?) months. No fits or convulsions. Walked when two and a half years old. Loss of use of arm not noticed until one year old.

Liver reported torpid. Bowels always confined. "Nervous; learns less easily than other children." Does not appear below average intelligence. Every letter well pronounced. Often sits with mouth partly open. Mother, who is a very intelligent person, says she did the same.

Seven months or seven and a half months child. Cried at birth; was weakly afterwards; sucked after third day. Inversion of one foot noticed at birth. Mother was four hours in labour. Liq. amnii discharged at first. Accoucheur told mother not to be surprised if child should be born dead. Presentation believed to have been natural.

Has always been extremely constipated, painfully shy, sensitive, and "startlish."

"Cross birth."

Asphyxia at Birth, followed by Paralysis.

Mother had severe fright ten weeks before confinement, through another child drinking from a tea-kettle. Child born at full time; large child, the sixth, the others living healthy. "Did not cry at birth, was born so quickly; one pain only; born before arrival of medical attendant. Was very dark; twice during first day turned purple, foamed at the mouth, and was convulsed."

At six weeks old had a fit; another at five months old, which was followed by hemiplegia. Arm recovered in two days. Eldest child had convulsion when eighteen months old.

LX.	C. S. Inmate of Idiot Asylum, Earlswood. Autopsy by Dr. Langdon Down, M.D., London. This case was observed by me in the asylum. Its pathological physiognomy induced me to suggest to my colleague Dr. Down an inquiry as to its history. The result is seen in the fifth column.	18	Hemiplegic contraction of right arm and leg.	
Post-mortem to illustrate Production of Apoplectic Capillary				
LXI.	From Dr. W. Newman, M.D. Lond., Fulbeck, Grantham.	—	——	

"Mother was of most excitable temperament, and had a very difficult confinement. Child born at full period. Instrument was used." The first born. Mother died soon afterwards. The person communicating cannot recollect whether child cried immediately after birth, what was its colour, or whether it was apparently stillborn. When an infant fell off a table upon the floor, but did not appear to suffer the least injury in consequence. Was subject to fits when a few years old. "These 'fits' consisted of a falling forward of the head so as to strike the table where it was sitting; making a great outcry at night, &c."

Death caused by phthisis pulmonalis two years after he was first seen by me.

Autopsy.—Head.—Atrophy of left hemisphere; old apoplexy in it; cicatrized right hemisphere; cicatrized remains of small extravasation on surface. Calvarium unsymmetrical, the right side being the larger. On removing dura mater the right half was found adherent about the vertex; between the adherent portion of the arachnoid was a mass of yellowish, tough substance, about the circumference of a shilling and a quarter of an inch in thickness; the convolutions corresponding thereto were deeply indented. The encephalon weighed two pounds four and a half ounces. The right hemisphere of the brain much larger than the left. Along both sides of the longitudinal fissure small, white, granular bodies were noticed in the arachnoid; on the left hemisphere, about the posterior part of the middle third, was a distinct depression; corresponding thereto was a cavity, which was prolonged into the anterior lobe of the cerebrum between the cineritious portion and the corpus striatum; the outer wall had a gelatinous appearance, the inner a white, pultaceous consistence. Optic thalamus of left side remarkably small and dense, having a semi-cartilaginous grating under the nail. The right half of cerebrum weighed one pound two and three quarters ounces. The left half eleven and three quarters ounces. The rest of body was examined except the spinal column.

Congestion in Child born without Pelvic Obstruction at Birth.

The wife of J. D— was confined at full time, October, 1859. The tenth child. No history of fright or accident. The presentation cranial; second position (face to left sacro-iliac synchondrosis); no prolapse of umbilical cord. From the earliest accession of labour-pain until child was born nearly twelve hours elapsed. Child born one and a half hour after rupture of the membranes, with no delay in any one stage; the child was expelled stillborn.

Post-mortem, eighteen hours after examination.—Head.—No caput saccedaneum; considerable effusion of blood over posterior and superior quarter of left parietal bone. On opening skull there was found very considerable congestion of all the superficial vessels, sinuses gorged, smaller veins distinctly mapped out. Pia mater deeply injected. Every part of brain gave evidence of most intense congestion; natural tint had given place to pinkish hue, and punctated spots oozing blood were to be seen in every part of brain.

LXII.	Upwards of a year and a half ago I described to Dr. Hess, the writer of accompanying letter, the class of cases I found most commonly caused by asphyxia neonatorum. I mentioned to him that a certain class of simia-like cripples who are occasionally seen wandering about streets are sometimes cases of imbeciles with spastic rigidity from asphyxia at birth. He said he thought he recognised my picture of the disease in a man familiar to Finsbury. Soon afterwards I received from him the following letter in confirmation of my opinion.			

Spastic Rigidity and Imbecility

LXIII.	Miss E. P. In consultation with Mr. Collambell, June, 1858. (579 bis.)	10½	Spastic contraction of lower extremities. Talipes equino-varus right. Talipes equino-varus left. Thighs adducted. Knees very slight contracted.	

(Copy of letter from Dr. Hess to Dr. Little.)

"ARTILLERY PLACE;
"8. 5. 60.

"MY DEAR DOCTOR,

"I am sorry that I have not been able to present to you the young man suffering from the consequences of asphyxia, as he has been away from here.

"There is no doubt about the case. I have again ascertained that he was asphyxiated for two hours when born, and that he has always been a weak creature, very slow in his mental development, with difficulty in speaking, trembling and shaky, unable to fix his attention on a book, and a bit of a punster.

"I write you in order to explain my apparent negligence.

"With kind regards, yours truly,
"A. HESS."

from Embarrassed Breathing (?)

First and only child. Born of mother about thirty-six years old. Born at full period; birth favorable. The infant sneezed at birth; no trouble with teething, except bilious with every tooth; was startled easily with noises; remarked at five years old. Is still particularly timid and nervous and childish. No fits. Walked alone about four and a half years old. Had hooping-cough and measles together mild. Ten three and a quarter years old.

Hands awkward, but no contraction. Pronounces well all letters except q and r. Very feeble intellect. June, 1861.—Spends whole time with dolls and tearing up paper for paper pillows. No idea of writing. Reads a little.

September, 1861.—Walks without assistance of stick, and appears to have much improved in mind; since able to take more exercise.

[I find this case in my journal. In appearance it is very similar to cases of spastic rigidity resulting from asphyxia neonatorum. There is, however, no other evidence of embarrassed breathing at birth than the sneezing reported. Having been a first child—mother's age at least thirty-six years—the umbilical cord may have suffered pressure.]

Dr. Barnes said, that although not able, from his own observation, to produce any facts in confirmation or negation of Dr. Little's theory, this might be due to his not having studied the subsequent history of children in connexion with the phenomena attending their birth. He was now, however, able to look back upon a considerable number of children who had been born semi-asphyxiated, in consequence of difficulty involving resort to the forceps, or turning. Many of these children he knew were healthy, and did not appear to bear any trace of the difficulties that attended their birth. He had, like most obstetricians, observed that occasionally children born with difficulty were liable to convulsions for a short time; but if these survived, they commonly did well. The difficulty there appeared to be in discussing this excellent paper, arose, no doubt, from the entire novelty and originality of the subject. Dr. Little had brought before the obstetric world new matter for inquiry of the highest interest. It was closely related to the question of the causes of still-birth—a subject, also, of which little was known, at least in this country. One reason was, that there existed no large lying-in hospitals in England, for there could be no doubt that the lying-in hospitals of the Continent lent greater opportunities for investigations of this kind than existed here. Hence Dr. Little has been obliged to look to German authors for information. [illegible] Dr. Barnes), however, hoped that the study of the causes of still-birth would be more closely prosecuted by post-mortem examinations in this country. There was a case of which Dr. Little might be glad to avail himself. It is recorded of Samuel Johnson that "he was born almost dead, and did not cry for some time." The name of Samuel Johnson was almost synonymous with intellectual grandeur, but he was well known to be affected with certain nervous disorders which Dr. Little could better interpret than the speaker.

Dr. Tyler Smith expressed the great obligation of the Society to Dr. Little for his valuable paper. There could be no doubt the author had directed attention to an original field of observation in pointing out the injuries to which the nervous system was liable during, and immediately after, birth. Cases of early paralysis and contraction had not fallen under his (Dr. Smith's) observation, but he quite agreed with the possibility of their occurrence from the causes stated. In cases of spasm of the limbs, especially the lower extremities, shortly after birth, he had attributed the condition of the limbs to an excess of the tonic contraction of the muscles natural to the fœtus in utero, and which gradually disappeared under the influence of volition and the use of the limbs. He thought dentition the great source of paraplegia and hemiplegia in young children. The irritation of teething sometimes caused paralysis by exciting convulsions, during which the nervous centres were damaged. At other times reflex paraplegia ensued,

without fits, during dentition. These forms of disease were very commonly met with, especially in hospital practice, in children from six months to two years of age. The great point was to prevent these seizures by relieving the irritation of dentition, by timely scarification of the gums, and attention to the secretions.

Dr. Gibb said he was reminded of an instance that came under his observation some years ago, but which, perhaps, hardly came within the same category as those described by the author of the paper. After a lingering labour, a child was born with spastic rigidity of all the muscles on one side of the body; in fact, it was an instance of conjunctive hemiplegia. Suspecting that the cause existed in the brain, he was allowed to make an examination of the body of the infant, and found a clot in the substance of the brain on the side opposite to that on which the hemiplegia existed. The vessels generally were very much congested about the head, and, no doubt, had the child lived, it would have remained palsied. The case was recorded at the time in one of the medical journals.[1]

Dr. Little said he quite agreed with the President that the majority of infantile spastic and paralytic contractions arose between the ages of six months and two years from cerebro-spinal disorders, and that, perhaps, for one that depended on abnormal or premature labour there were twenty or more from other causes incidental to later life. He mentioned that, not having found any reference to the affections consequent on abnormal and premature parturition in the works of English medical writers, he had referred, with some confidence, to Shakspeare, to ascertain whether any notions on the subject were contained in his works. He said, the description of the physical character of Richard III was exactly that of an individual afflicted with one kind of deformity originating at birth.

> "I that am curtailed of this fair proportion,
> Cheated of feature by dissembling Nature,
> Deform'd, unfinish'd, sent before my time
> Into this breathing world, scarce half made up,
> And that so lamely and unfashionable
> That dogs bark at me as I halt by them."

In the following lines Shakspeare has used more poetic licence. The great dramatist has here probably intensified some popular notions on the subject:

> "If ever he have child, abortive be it;
> Prodigious and untimely brought to light,
> Whose ugly and unnatural aspect
> May fright the hopeful mother at the view;
> And that be heir to his unhappiness."

---

[1] 'Lancet,' Nov. 13th, 1858.

He was convinced Shakspeare had drawn the first picture from an individual who had suffered through asphyxia at birth. He, probably, was aware of the fact mentioned by Sir Thomas More, that "the Duchess of Gloster had much ado in her travail, he (Richard III) being born the feet forward."

DESCRIPTION OF PLATES VI AND VII.

PLATE VI.—General spastic contraction of the lower extremities. Premature birth. Asphyxia neonatorum of thirty-six hours' duration. Hands unaffected. See Case XLVII.

PLATE VII.—Contraction of adductors and flexors of lower extremities. Left hand weak. Both hands awkward. More paralytic than spastic. Born with navel-string around neck. Asphyxia neonatorum one hour. See Case XLIII.

Cyp. Clèrévaux lith. W. West imp.

Cyp. Clérévaux lith. W. West. imp.

NOVEMBER 6TH, 1861.

DR. TYLER SMITH, President, in the Chair.

Present—46 Fellows and 4 visitors.

The following gentlemen were duly elected Fellows of the Society:—J. P. Aldridge, M.D., L.R.C.P. Edinb., Shirley House, Dorchester; J. G. Appleton, Esq., Luton, Bedfordshire; John Armstrong, M.D., Gravesend, Kent; Joseph Atherley, Esq. (*in practice before* 1815), Mountsorrel, Leicestershire; John S. Bartrum, Esq., F.R.C.S.E., Bath; Francis Bennett, F.R.C.S.E., Gateshead, Durham; Thos. W. Blake, Esq., Hurstbourne Tarrant, Andover; Samuel W. Brown, Esq., F.R.C.S.E., Lewisham, Kent; Joseph Bunny, M.D., Newbury, Berks; Henry Candlish, M.D., L.F.P.S. Glasg., The Infirmary, Alnwick; John Candy, Esq., Mitcham; A. Pleydell Carter, Esq., Gloucester; Stephen Clogg, East Love, Cornwall; H. W. Clifford, Esq., Tivoli Villa, Cheltenham; John Cocker, M.D., F.R.C.P. Edinb., Bank Hey, Blackpool; H. D. C. Delamotte, Esq. (*in practice before* 1815), Swanage, Dorset; R. H. Derry, Esq., Plymouth; H.W. Down, Esq., Glastonbury; T. A. Essery, Esq., F.R.C.S., Swansea; Gustavus Evans, M.D. Glasg., Carlisle; Henry Ewen, Esq., F.R.C.S., Long Sutton, Lincolnshire; G. H. Fetherston, M.D. Edinb., Melbourne Lying-in Hospital, Melbourne, Australia; H. L. Freeman, Esq., Saxmundham, Suffolk; W. J. B. French, Esq., Wilton, Wiltshire; H. R. Harris, Esq., Bury, Lancashire; Denis McVeagh, L.K. and Q.C.P. Ireland, Coventry, Warwickshire; Silas Palmer, M.D. Edinb., Newbury; J. Shortt, M.D. Aberd., M.R.C.P., H.M.I. Army, Chinglepet, Madras District, India.

NEW INSTRUMENTS FOR THE REMOVAL OF UTERINE POLYPI, &c.,

By J. Braxton Hicks, M.D. Lond.,
ASSISTANT OBSTETRIC-PHYSICIAN TO GUY'S HOSPITAL.

Dr. J. Braxton Hicks exhibited instruments, made under his direction by Durrock, of St. Thomas Street, London Bridge, for the removal of polypi, cauliflower excrescence, cervix uteri, hæmorrhoids, vascular growths, &c. The principles of these were the adoption of the annealed steel-wire rope to a modification of the screw-écraseur. Dr. Hicks remarked that, after numerous experiments on various materials, he believed that annealed steel wire was that which combined the greatest amount of strength with flexibility. Ropes made of it could be formed of any size, according to the strength required, the smallest being composed of a strand of two wires, while the largest was made of five or six strands of four wires, twisted into one. Even the largest rope thus made is nearly as flexible as a whipcord.

The instruments to which these ropes are attached are modifications of that of the screw-chain-écraseur, the largest possessing all its power, but much lighter in form, and therefore more manageable for obstetrical purposes. This one is represented in the accompanying plate (VIII), fig. 1. It consists of a shaft (*a*, *a*), of which about two thirds are hollowed out for the reception of the screw (*b*), and having a slit extending the length of the hollow to allow the hook or button (*c*) to traverse by means of the screw. The end of the shaft has one eye only (*d*), just large enough to allow the passage of the double rope. It is very necessary that the maker should be careful to see that every part upon which the rope bears is well rounded off, or the rope may be cut through. On each side, near the lower end of the shaft, there is a pin with a large eye (*e*), which serves as a handle as well as

Fig. 1

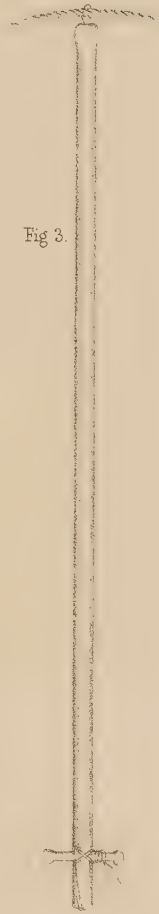


Fig 3.

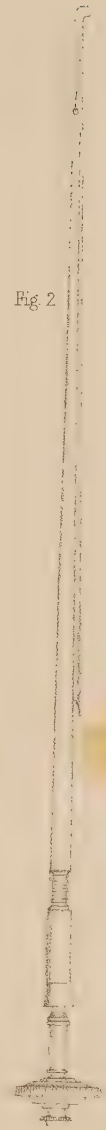


Fig. 2

Scale one half the natural size.

J. B. H. del.ᵗ. W. West imp.

for fastening off the other end of the rope. The method of using this instrument will be readily seen. When the rope can be passed easily over the growth to be removed, fasten one end of the rope securely on to the hook or button (*c*), which is to be screwed up to the end of the slit. Pass the other end through the eye twice, so as to form a loop, and bring it down near to the arms of screw. The loop is now to be passed over the growth; the free end, being drawn down tightly by the hand, is to be fastened firmly on to the pin (*e*). When the arms of the screw (*f*) are turned round, the hook (*c*) brings down the wire, and when the loop passes through the eye (*d*) the section is completed.

If the growth be small, it is more convenient to make the loop and to fasten off both ends before passing it round the growth.

This also is the mode of using the smaller instrument (Plate VIII, fig. 2), which is made on the same plan; the milled-edged head answering to the arms of the larger. It is very convenient for the removal of the smaller growths and polypi at the os, in the cervix, or at the meatus urinarius. Being very slender, it occupies very little space in the speculum or in the dilated cervix, and is easily carried along the cervix to the root of the polypus.

When the neck of the tumour is out of reach, as in intra-uterine polypi, the large-sized instrument must be employed; and as it would be impossible to pass the loop round the growth as above described, it can be placed in that position by means of two handles, as at fig. 3. They are hollow, like those of Gooch's instrument, having at the base a cross-bar. To attach them to the rope, pass up a doubled annealed steel-wire, so as to form a noose at the end, while the free ends protrude from the base; the rope is to be then passed through the noose to about the middle of its length. The wire of one handle is to be tightly drawn down and fastened to the cross-bar; that of the other is not to be drawn down so tightly, but to be left as a running noose, though the free ends must be securely fastened to the cross-bar. The mode is shown at fig. 3.

Having placed both handles together about the centre of the rope, carry them within the os as high as required. Then, holding firmly the handle which is attached the tightest, carry the other around the growth till they meet again. The rope being thus conveyed also, the ends of it are to be passed through the eye of the écraseur, and the latter passed up the ropes as high as the ends of the handles, which are firmly held together by an assistant. Then fasten off the rope as before directed. The next point is to detach the handles. All that is requisite is to unfasten the wires from the cross-bar, and to draw down one end of each, holding the handles steady the while. When these are withdrawn, proceed to use the screw as above.

The advantages of the annealed steel-wire rope over the chain is, first, that it is capable of being bent at any angle to the shaft; secondly, a much greater length can be used, the former property enabling it to be used within the uterus, the latter allowing growths of very large equatorial diameter to be secured by it.

The advantage of the metallic ligature over whipcord, &c., is shown in the ease with which the noose of even a small rope is carried down to the base of a polypus.

The single eye at the end of the shaft possesses also great advantages over those made with two eyes. This is as apparent in the removal of the smaller as of the larger growths. Unless the rope breaks, the section must be completed when the loop passes through the eye.

The drawing down of only one side gives it an advantage over Gooch's, as it performs a half-saw-like motion instead of simply compressing.

With regard to the size of the instruments required for the severance of the different growths, the size of the rope equal to the task will be the guide. For vascular growths or polypi, and any one with a base of one third of an inch diameter, the two wires will be enough with the smaller instrument. For any larger polypus that can be removed by a speculum, a rope of eight or twelve wires will be best, while

for the larger polypi, and for cervix uteri, twenty-four wires, with the largest instrument, will be required.

The rope should never be used a second time, unless for a much less strain.

Dr. Tyler Smith observed, that if the annealed steel wire were stronger than other wire, Dr. Braxton Hicks would have rendered essential service in the treatment of polypus. He had himself for many years abandoned the use of whipcord for wire in the removal of polypus and cauliflower excrescence. His instrument was made on the plan of Gooch's, but sufficiently strong to cut through the tumour at once. He had used plated copper wire or had iron wire, both singly and stranded.

Mr. Spencer Wells, in reply to a question from Dr. Hicks, stated that the wire-cord he had used was made by stranding together from six to ten lengths of the ordinary Sheffield iron wire introduced by Dr. Simpson. He (Mr. Wells) had removed fibrous polypi easily by this cord, and had once cut through the cervix uteri without difficulty. He had used the screw-écraseur for tightening the cord, and the tourniquet screw; but he thought the double-sawing action of Mathiu's rack-écraseur was better than the simple screw used by Dr. Hicks. In one case the tumour was sawn off; in the other simply squeezed off.

Dr. Oldham said he had employed Dr. Hicks's instruments for large and small polypi, and had found them so convenient in application, and certain in the action, that he did not hesitate to express his opinion that they were the best we had for the purpose, and that they would be generally adopted when they became known. The degree of stiffness of the rope enabled it, in the case of the smaller polypi, to be carried to their base readily, while its flexibility enabled it to be used at right angles to the shaft of the instrument.

FIBROID POLYPUS REMOVED BY DR. HICKS'S INSTRUMENT.

Dr. Oldham exhibited a fibroid polypus of five inches long and three and a half diameter, which was filling up and distending the vagina, rendering it almost impossible to reach the os uteri, even under the influence of chloroform. It was removed by Dr. Hicks's larger instrument. The patient was placed under the influence of chloroform, and the wire-rope carried on the point of the fingers around the growth, aided by the passage of the shaft of the instrument in front, behind the symphysis pubis. The wire was then

tightened and fixed, the screw employed, and in a few minutes the separation was completed.

The growth was then removed from the vagina with the fillet. No hæmorrhage ensued, and the patient recovered without a bad symptom.

POLYPUS OF THE UTERUS, PENDULOUS IN THE VAGINA, REMOVED BY THE ÉCRASEUR.

By Graily Hewitt, M.D., &c.

The chief interest attaching to the specimen exhibited is connected with the fact that the real nature of the case had for a long time been mistaken, and the patient, in consequence, subjected to a futile and erroneous method of treatment.

The patient from whom the polypus was removed was a lady, æt. 45, the widow of an officer. She had had three children, the last of whom was born fourteen years since, the labour being perfectly natural. The catamenial discharge always regular, but profuse in quantity. Her health had always been good; there had been no hæmorrhage from the uterus. About two years ago she began to suffer from a feeling of bearing-down and uneasiness in the pelvis generally, and she thought there was "falling of the womb" present. On consulting a medical man, she was informed that it was so, and she was recommended to wear a pessary. The pessary continued to be worn for a twelvemonth. She found, however, that the inconveniences which existed were not removed by the use of the pessary. She has been, in consequence, confined, for the most part, to the sofa, unequal to any exertion, though feeling in other respects pretty well, with the exception that the menstrual discharge has been rather more profuse than usual, and that there has been a continuous watery or mucous discharge from the vagina during the intervals of the catamenial flow. Very recently

she has consulted a second medical man, who, having examined her, found that the affection under which she was labouring was not "falling of the womb," but polypus; and this being the case, the patient subsequently came under my notice.

On examination, I found the vagina occupied by a rounded, flattened, smooth, hard tumour, connected with the os uteri above by a thin pedicle. It was difficult to ascertain the precise relations of this pedicle, but on introducing the sound into the os uteri it was ascertained that the cavity of the uterus was in its normal condition as regards length and position, and this made it evident that the tumour was a polypus, the pedicle of which was attached within the uterus. The upper border of the tumour touched the os uteri, but it was certain that the pedicle which retained it in this position was of inconsiderable thickness.

With the assistance of the gentleman under whose care the patient at that time was, I proceeded to remove the tumour by means of the écraseur. Dragging the polypus slowly down a little outside the vagina, the tumour was separated from the os uteri above, and the pedicle thus exposed. The chain of the instrument having been carefully adjusted round the pedicle, its severance was soon effected, and the polypus removed. The pedicle was, as appeared from examination after removal, about half an inch thick. The only inconvenience experienced by the patient was just at the last, when a severe pain was complained of, due, as it appeared, to the traction of the pedicle on the wall of the uterus. There was no hæmorrhage, and the patient made a perfect recovery. She is now able to move about comfortably and easily.

The extreme length of the polypus was just under three inches, its thickness two and a half inches; near the upper extremity it presented a sulcus into which the point of the finger could be introduced, and close above this was the point where the pedicle was situated, and which had been cut across. Everywhere else the tumour was smooth. A thick, skin-like, smooth, external covering was in places

separated and partly detached. As it lay in the vagina, a portion of the tumour mounted up between the cervix uteri and the vagina. The internal structure of the tumour was that ordinarily present in fibrous polypi of the uterus of the harder variety.

FIVE CASES OF OVARIOTOMY.

By I. Baker Brown, Esq., F.R.C.S.,
SENIOR SURGEON TO THE LONDON SURGICAL HOME.

Mr. Brown exhibited specimens and drawings of cases which had recently been treated by him. The following are the chief particulars relating to the cases in question:

Case 1.—L. H—, æt. 21, single, admitted August 29th, 1861. Has had a tumour two years, and has been twice tapped. Was operated on September 19th. There were no adhesions. Pedicle secured by a clamp, which was taken off three days afterwards, and the pedicle allowed to return. Never had a bad symptom. The opening, when healed, measured three and a half inches. The tumour, which was multilocular, contained seventeen pints of fluid.

Case 2.—F. W—, æt. 19, single, admitted October 7th. Has had the tumour two years. Operated on October 24th. There were no adhesions. Pedicle treated as in Case 1. Operation lasted barely ten minutes. Had only one grain of opium. Is now quite convalescent. Tumour of the multilocular character, and composed of one large cyst, containing fourteen pints of fluid and a conglomerated mass of smaller cysts.

Case 3.—C. S—, æt. 49, married, admitted September 9th. Has had the tumour six years, and has twice been tapped. Operated on October 31st. Only one adhesion, in

the direction of the liver, which was tied with a ligature. Is now doing well. Has had one grain of opium nightly since operation. Pedicle treated as in Case 1. Tumour of multilocular character, and weighing one pound eleven ounces. It consisted of two cysts, with very thin walls, containing between eleven and twelve pints of dark, albuminous fluid, and several masses of conglomerated cysts, varying in size from a walnut to an orange.

Case 4.—M. A. M—, æt. 50, admitted October 14th. Is the mother of six children; is of very nervous and desponding temperament. Has had the tumour for three years. Operated upon October 31st. The tumour weighed six pounds fourteen ounces, and was composed of a mass of honeycomb cysts. There were no adhesions above, but there was one in the direction of the liver, which was ligatured. The tumour was withdrawn with great difficulty, it having modeled itself to the form of the pelvis and being attached to the whole external surface of the fundus of the uterus. The pedicle was too large to be embraced by a clamp. One portion only was secured by callipers; the remainder was divided into four separate portions, and each secured by as many double ligatures. These were retained outside. There were also several large vessels ligatured. The surface of the tumour which was cut off measured five and a half inches by three inches. The patient never did well; nothing rallied her; and she sank forty hours after the operation. She had two grains of opium given her altogether. The autopsy showed very partial peritonitis and general congestion of the abdominal viscera. The whole surface of the pedicle was covered with clots, and there was also some blood in the cavity of the peritoneum. She evidently died from the great shock of the operation.

Case 5.—M. T—, æt. 23; has had a tumour over three years. Operated upon October 31st. There were no

adhesions. The patient has not had a bad symptom, and is already convalescent.

These cases make a total of fourteen operations for ovariotomy performed in the London Surgical Home, of which ten have been successful.

FEMALE BLADDER SHOWING THE RESULTS OF RETENTION OF URINE AFTER DELIVERY.

By T. Spencer Wells, Esq., F.R.C.S.

Mr. Spencer Wells exhibited to the Society a female bladder. The coats of the bladder were thickened, and lying loose in the cavity. There was found a mass, composed of the whole of the mucous membrane, detached from the muscular coat, and covered on both sides with a deposit of the saline elements of urine. Microscopically, this mass might be described as degenerate epithelium holding together saline deposit. On boiling a piece of it in twenty pints of water to one ounce of acetic acid, much of the saline matter is dissolved, and some of the tissue becomes clear, looking like smooth muscular tissue which has begun to degenerate by the deposit of fatty or albuminous particles in its substance. The case was a very painful but most important one; and Mr. Wells brought it before the Society by the express desire of the father of the patient (a highly esteemed member of our profession) in order to impress upon all the lesson that a valuable life may be lost, and the surgeon's reputation also, if the catheter be not promptly used whenever urine is retained in the bladder, especially during or after labour. This lady was perfectly healthy, twenty-two years of age, and was taken in labour with her first child,

at her home in the country, on the morning of the 20th of August last. The pains were trivial until the evening. At half-past eight the membranes broke, and the child was born at forty minutes past nine. The placenta soon followed. The nurse had told the medical practitioner in attendance that the lady had been unable to pass urine during the day; but he "did not heed it." Two hours after delivery there was much pain and distressing desire to micturate, which continued the whole night, and no sleep. The next morning the abdomen was large and tense below the umbilicus. Fomentations and diuretic draughts were ordered. At night an attempt was made for the first time to pass the catheter, but it was unsuccessful. The patient passed a most distressing night, was left all through the next day unrelieved, but at night another surgeon was brought, who at once introduced the catheter, and removed five pints of turbid, bloody urine. The bladder was not relieved until forty-eight hours after delivery, and no urine had passed for fourteen hours previous to delivery. The catheter was introduced two or three times a day for some time. The urine became ammoniacal, and remained so. On the 31st of August she had a severe rigor. Two or three days afterwards the urine began to dribble away involuntarily. About the 12th of September it was supposed that she was the subject of vesico-vaginal fistula, and she was brought to town on the 21st in order that Mr. Wells might operate on this fistula; but it was found that there was no fistula, the incontinence of urine depending solely upon disease of the bladder. A train of very distressing cerebral symptoms followed, for which she was attended by Dr. West and Dr. Arthur Farre with Mr. Wells, and she died on the 16th of October.

Dr. Tanner considered that, as death had not followed until two months after delivery, and cerebral symptoms had supervened, the neglect in using the catheter could not positively be regarded as the real cause of death. He thought that it was by no means certain that the surgeon in attendance was so much to blame as

at first sight appeared from the history of the case just given. He was sure that we ought to be very careful how we cast obloquy upon any gentlemen.

Mr. Spencer Wells replied, that so far from there being any disposition to blame the gentleman unduly, Dr. West and he (Mr. Wells) had been the means of stopping legal proceedings which had been commenced against him. Had not the lady's father been a medical man the case would not have been brought forward, it being his desire that some good might arise from the case being made known to the profession without mention of any names. Mr. Wells trusted that the lesson might not be lost, as all who saw the patient believed that the retention of urine was the cause of the disease of the bladder, and the disease of the bladder the cause of death.

Dr. Chowne agreed with Dr. Tanner in defending the surgeon. He (Dr. Chowne) had frequently allowed urine to be retained many hours without resorting to the catheter, and he had never seen any serious result follow.

ON VAGINISMUS.

By J. Marion Sims, M.D.,
SURGEON TO THE WOMAN'S HOSPITAL, NEW YORK.

(Communicated by Dr. Tyler Smith.)

In May, 1857, I was called to see a lady, aged forty-five years, who was married at twenty, and had been an invalid ever since. Menstruation, which was always painful, had just ceased. She had great irritability of the bladder, a sense of bearing down, and other symptoms of utnrine derangement. But the most remarkable thing in her history was the fact that she had remained a virgin notwithstanding a married state of a quarter of a century. Some two or three years after marriage her physician discovered a sanguineous mucous tubercle at the meatus urinarius, which he removed without benefit. He then attempted to dilate the

vagina with graduated bougies, which produced the most intolerable suffering, without the least permanent improvement. They afterwards consulted the most eminent surgeons in the principal capitals of America, and subsequently visited London, Paris, and other European centres of learning, asking advice of leading surgeons wherever they went, but no one gave a satisfactory solution of the case, nor advised anything more than the bougie system, which had been already fruitlessly exhausted.

Possessed of ample fortune, they had left no means untried that promised any hope of success. I found her nervous system in a deplorable condition. It was exceedingly impressible, the slightest noise being intensely disagreeable. She was able to walk only across her room, but did not often venture on this experiment, being confined most of the time to her couch, where she gave herself up to unceasing intellectual effort. Her mental tension and sedentary habits were supposed to be the source of her great nervousness.

Amongst other investigations of her case, I attempted to make a vaginal examination, but failed completely. The slightest touch at the mouth of the vagina producing most intense suffering. Her nervous system was thrown into great commotion; there was a general muscular agitation; her whole frame was shivering as if with the rigors of an intermittent. She shrieked aloud, her eyes glaring wildly, while tears rolled down her cheeks and she presented the most pitiable appearance of terror and agony. Notwithstanding all these outward involuntary evidences of physical suffering, she had the moral fortitude to hold herself on the couch, and implored me not to desist from my efforts if there was the least hope of finding out anything about her inexplicable condition. After pressing with all my strength for some minutes, I succeeded in introducing the index finger into the vagina up to the second joint, but no further. The resistance to its passage was so great, and the vaginal contraction so firm, as to deaden the sensation

of the finger, and thus the examination revealed only an insuperable spasm of the sphincter vaginæ. Whether the vagina was defectively developed or normal I could not determine; I candidly told her husband that I knew nothing whatever about the case, had never seen or heard anything like it, and that it would be quite presumptuous in me to hazard an opinion, or to hope to do anything for her when they had consulted the ablest surgeons in the world without receiving the least information on the subject, and therefore I could promise nothing. However, I suggested the propriety of their going to New York, for further investigation under anæsthesia. They acted promptly on this suggestion, and I invited the late Dr. John W. Francis, Dr. Emmet, of the Woman's Hospital, Professor Van Buren, and Dr. R. S. Rissam. The two latter-named gentlemen assumed the responsibility of the etherization, which was to me a matter of some anxiety, owing to her peculiar nervous organism. Previously to the anæsthesia I attempted to make a vaginal examination, when the same train of symptoms was manifested as on the former occasion. But as soon as she was fully under the influence of the ether, greatly to my surprise, I found the mouth of the vagina completely relaxed and the vagina itself perfectly normal, not presenting the least variation from health. It was not large, but certainly quite as well developed as it ought to have been at her time of life and under the circumstances. The uterus was retroverted, and there was a small polypoid excrescence about the size of a pea hanging from the os tincæ. It was removed, not with the expectation of its exerting any influence on her peculiar condition, but to prevent the risk of future growths. The opinion I gave on the case was this:—that it was a spasmodic contraction of the sphincter vaginæ, resulting from an irritable condition of the nerves of the part, which I could not explain. When asked if it was possible to cure it, I said—"I do not know, for the books throw no light on the subject; but it appears to me that the only rational treatment would be surgical, *i. e.* that of dividing the muscle

and the nerves of the vulval opening." They seized the idea and insisted on the operation, which I declined to perform, on the ground that an untried process was not justifiable on one in her position in society, the hospital being the legitimate field for experimental observation.

I have related this case somewhat at length, not only to show the effect it produced on my mind, but to make it descriptive of the class it represents, and I shall be greatly obliged if this learned body will allow me in my own simple way to continue the story of my experience in this matter. I have nothing to say on the literature of the subject, if it have any. I leave that to the bibliotheque, knowing full well that this is the place most competent for its thorough elucidation.

The high intellectual endowments of this lady, her elegant culture and fine social position, as well as her long suffering, all conspired to make her case one of much thought and great anxiety to me. And it was not easily dismissed from my mind. I consulted authors, and found that they described cases of pruritus, hyperæsthesia, neuralgia, neurosis, atresia, &c., all of which I had seen, but I found no description of disease anywhere answering to the peculiarities of this case, and I naturally inferred that it was unique and anomalous. But about fifteen months after, Professor Pitcher, of Detroit and Michigan (W.S), sent me another precisely similar case, except that the lady had been married but two years. She had the same instinctive dread of being touched, the same muscular agitation of the whole frame, &c., while it was utterly impossible to pass the finger into the vagina. As this lady's husband threatened to obtain a divorce, I looked upon her case as justifying experiences. Explaining to her fully our ignorance on the subject, I proposed a series of experimental incisions, &c., which she readily assented to. Thinking that the division of the irritable spasmodic outlet was the only rational operative procedure, I divided first only the edges of the hymeneal

membrane on each side of the fourchette. There was no relief. Waiting for the wound to heal, I then divided the parts again at the same points, but extending the incisions deeply through the mucous membrane and through some of the fibres of the sphincter muscle. This was followed by some improvement; she could bear the introduction of one finger without very great pain, and could even tolerate two, but it was with considerable agony. I now saw that the hymen itself was the focus of the excessive irritability, and I then proposed to cut it out entirely, and afterwards to repeat the lateral incisions as before, making them deeper, and rendering the dilatation permanent by the use of a properly constructed bougie. By this time the mother of the lady came to the very just conclusion that I was *experimenting* on her daughter. I told her it was true, and attempted to explain to her the propriety of the course, when a lawsuit and divorce were in the distance. The mother, however, was inexorable, and unfortunately removed her daughter from my care. But her improvement was so great that I had no doubt of her fulfilling the relation of wife under some difficulties. The experience gained by this case was of great value to me.

A few weeks afterwards, singularly enough, another case fell into my hands. This patient was the wife of a clergyman, and had been married six years. Sexual intercourse was impossible. Several surgeons had been consulted, but without any explanation of the case, and of course without any relief. On examination, I discovered a sanguineous, mucous, irritable tumour at the meatus urinarius, and notwithstanding the experience already related, I persuaded myself that this tubercle was alone the source of all her trouble. It was removed, and its seat cauterized. In due time she returned home, but came back to me in a few days to report a persistent stage of virginity. On a more minute examination, I found it to be in all particulars just such a case as those previously related, but not quite so intense in its manifestations. The slightest touch with a

feather or with a camel-hair pencil at the reduplication of the hymeneal membrane produced as severe suffering as if she were cut with a knife. While this lady was under observation (April, 1859), a fourth case came under my care, that of a woman who had been married three years. Sexual intercourse had been imperfectly accomplished a few times during the first few weeks after marriage. She innocently supposed that all women had to suffer as she did, and tried, like a good Christian, to bear it, but her sufferings were so great that at last she looked with the greatest terror upon the approaches of her husband, to whom she was greatly devoted. At her earnest entreaties, her husband, who was equally devoted to his wife, ceased all efforts at sexual intercourse, and they lived and loved as innocently as two little children. But at last the mother of the poor timid girl began to wonder why, after three years of married life, her daughter, who seemed to be healthy and had a healthy, vigorous, young husband, did not become pregnant, and ventured to speak of her disappointment at not being advanced to the highly honorable position of grandmamma. Whereupon the daughter hesitatingly explained it all to the mother, who immediately brought her to see me, when I found precisely the same condition of things already described. Three weeks after this, my friend, Dr. Harris, of East Thirtieth Street, New York, brought to me another case (the fifth). His patient had been married two and a half years, and in consequence of her persistent virginity, her husband (who had been a widower) was truly unhappy. I now (June 18th, 1859) had three cases all at one time under observation; but to cut short this long narrative, I may here say that they were all, after many experiments and disappointments, perfectly cured in August, 1859.

From personal observation I can confidently assert that I know of no disease capable of producing so much unhappiness to both parties of the marriage contract, and I am happy to state that I know of no serious trouble that can be cured so easily, so safely, and so certainly. I have not

before published anything on this subject, and I now venture, with the approbation of this learned body, to give this affection a name as well as a remedy.

By the term Blepharismus, or Blepharo-spasmus we mean an involuntary, painful, spasmodic contraction of the orbicularis palpebrarum, with great supersensitiveness or intolerance of light; by the term Laryngismus we mean a spasmodic contraction of the rima glottidis, attended with stridulous inspiration; and by the term Vaginismus I propose to designate an involuntary spasmodic closure of the mouth of the vagina, attended with such excessive supersensitiveness as to form a complete barrier to coition. These various affections may be complicated or not with inflammation, but do not necessarily depend upon it. We may have vesical tenesmus without inflammation of the bladder, and rectal tenesmus without rectitis. The most perfect examples of vaginismus that I have seen were uncomplicated with inflammation, but I have met with cases in which there was a slight redness or erythema at the fourchette, just without the reduplication of the mucous vaginal membrane called the hymen. Usually the hymen is thick and voluminous, and when the finger is passed into the vagina its free border often feels as resistant as if bound with a fine cord or wire, but it may also be firm and comparatively unyielding, with even the wire-feeling free border, without symptoms of vaginismus. There need not be a mistake in diagnosis. It can be confounded only with impermeable hymen or with atresia. In each of these marriage may have existed without consummation, but the true cause becomes patent on investigation. In a case of vaginismus the gentlest touch with the finger, a probe, even with a feather, produces the most excruciating agony. The sensitiveness is at all parts of the vaginal outlet, is very great at the meatus urinarius, and on each side of it just where the hymen takes its origin, greater still on the vulval or outer face of the hymen, near the orifice of the vulvo-vaginal gland, and greatest just in the sulcus or reduplication from

the vulval orifice. Often the most sensitive point of all is at the fourchette, just where the hymen projects upwards; again, at the orifice of the vulvo-vaginal gland. I have often heard patients shriek with great terror and agony, exclaiming that I was thrusting a dagger into the body, when I had barely touched the sensitive points with the most delicate camel-hair pencil or with a soft, downy feather. And, again, these same patients have declared that they felt comparatively nothing when I have had the parts held asunder so as to pass a probe into the vagina, making forcible pressure against the internal or vaginal surface of the hymen; thus proving that while the outer face of the hymen was supersensitive, its inner surface was normal. In all cases the mere spasm of the sphincter is painful, and in many cases the sphincter ani feels almost as hard as a ball of ivory; indeed, one of my patients supposed it to be a tumour, to be cut out before she could be cured. The spasm is pathognomic of the disease, the supersensitiveness diagnostic; this last is more delicately shown by touching the outer surface of the hymen, particularly at its reduplication, with a soft camel-hair pencil.

Treatment.—I shall not detain the Society with a rehearsal of the stages by which the proper plan of treatment was finally determined. Enough has already been said to show that it was not accidental, as my observations and experiments extended from May, 1857, to August, 1859. The treatment consists in the removal of the hymen, the incision of the vaginal orifice, and subsequent dilatation. The last is wholly useless without the first two, but is essential to easy and perfect success with them. I usually make two operations, but it may all be done at once.

Placing the patient (etherized) on the left side, I seize the hymeneal membrane with a delicate tenaculum forceps just at its juncture with the urethra on the left side, and putting it on the stretch, clip with properly curved scissors till the whole is removed in one continuous piece.

In some cases the hæmorrhage requires a compress of lint. In two instances the bleeding was excessive, but easily checked with the Liq. Ferri Persulphatis. The cut surface usually heals entirely in two or three days, after which the operation for radical cure may be performed. Notwithstanding the removal of the thick, sensitive hymen, the cicatrix marking its original place at the mouth of the vagina is exceedingly sensitive, and in some instances feels hard and tense, as if a wire or small cord were constricting the outlet. This I divided at various points and in divers ways during my early experience, and finally arrived at the following method, as being the surest and best:

Place the patient (fully chloroformed) as for lithotomy, on the back; pass the index and middle fingers of the left hand into the vagina, separate them laterally, so as to dilate the vagina as widely as possible, putting the fourchette on the stretch, then with a common scalpel make a deep cut through the vaginal tissue on the right of the mesial line, bringing it from above downwards, and terminating at the raphé of the perinæum. This cut forms one side of a Y. Then pass the knife again into the vagina, still dilating with the fingers as before, and cut in like manner on the opposite side from above downwards, uniting the two incisions at or near the raphe, and prolonging them quite to the perineal integument. Each cut will be about two inches long, *i.e.* half an inch or more above the edge of the sphincter, half an inch through its fibres, and an inch from its lower edge to the perineal raphé. Of course this will vary in different subjects, according to the development of tissue in each. To perfect the cure it is necessary for the patient to wear for a time a properly adapted bougie or dilator. I use a dilator made usually of glass, sometimes of metal. I prefer glass, because it is easily kept clean, and, being transparent, it is easy to see the cut surface, and indeed the whole vagina, without removing it. If there is much bleeding I introduce the dilator at once, but usually I wait twenty-four hours, when it is worn one, two, three, or four

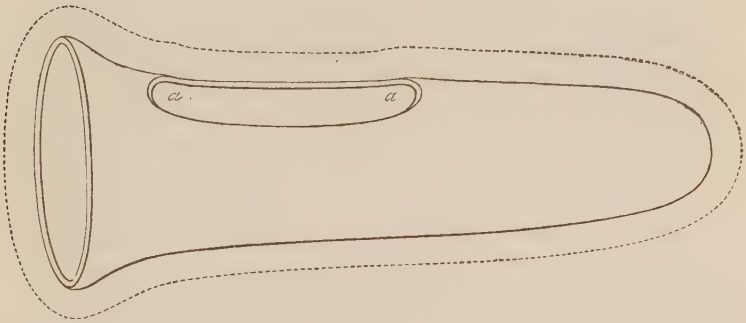
hours. Its introduction is attended with a sense of soreness, but with none of the peculiar agonising suffering so characteristic of the original disease.

The patient will generally wear the dilator two hours in the morning and two or three hours in the afternoon or evening. I have known a few who wore it six or eight hours at a time, but I never so order it. I have often been astonished at the rapidity with which the cuts sometimes heal, the cure being seemingly facilitated by the pressure of the glass tube.

I direct the dilator to be worn daily for two or three weeks, or till the parts are entirely cured and all sensitiveness removed.

The tube is about three inches long, slightly conical, open at one end, closed at the other, and one and a quarter or one and one third inch in diameter at the largest part, near the open or outer end.

In the accompanying figure the external dotted line represents the larger-sized instrument, the internal the



smaller one. There is a depression or sulcus (see figure, *a*, *a*) on one side for the urethra and neck of the bladder.

The outer, open end allows the pressure of the atmosphere

to assist in retaining it easily in the vagina. When closed at both ends it is much more difficult to retain it *in situ*, even with a well-adjusted T bandage. The depression for the urethra is very important, for I found that a perfectly round cylinder, worn for three or four hours, always injured the urethra; and, moreover, this urethral depression assists the self-retaining capacity of the instrument.

It must not be thought for one moment that I arrogate to myself the discovery or description of a new disease. I do not; for this affection has been encountered, doubtless, for all time. I only claim to have separated it from the great class of neuroses with which it has been obscurely mixed up. Others have met with it before. Some have called it a neurosis; but that is a generic term, and may as well be applied to any other obscure, unexplained nervous affection uncomplicated with inflammation. Others have called it neuralgia; but that term is wholly inappropriate, as it does not present any of the habitudes of neuralgia. Neuralgia is supposed to be a painful affection in the course of a nerve, coming when it pleases, remaining as long as it pleases, and going when it pleases, but generally observing a particular cycle of time in its advent, its culmination, and its decline. Let it once leave, and it cannot be immediately recalled; but this affection can be provoked at any moment by the gentlest touch, ceasing immediately on the removal of the irritating cause; never returning spontaneously, and not returning at all except under the same mechanical agency. Time will show that this is not the only disease in which our ignorance is covered over with the broad mantle of neuralgia. Some have called it hyperæsthesia, but this is only another phase of neuralgia—a thing that is here to-day and gone to-morrow, and is most generally symptomatic of some other affection. I call this disease vaginismus, because it is not a mere symptom, but a conglomeration of symptoms, constituting a distinct affection, fearful in the amount of wretchedness

that it engenders, not only physical, but social and moral.

Dr. Oldham thought that there were few obstetricians of much experience who had not met with cases of a similar nature to those noticed by the author. He reminded the Society that some years ago he had described some cases where these painful symptoms were present, but which he had connected with inflammatory conditions of the follicles of the vulva. He had since that time kept a record of similar cases, and he did not call to his recollection any instance where there was not that condition present. He had found almost every case amenable to a sedative plan of treatment, and condemned the use of caustics.

Dr. J. Braxton Hicks had seen one such case, in which the whole membrane of the vulva was rough with small papillæ; and he considered that the exquisite tenderness in this case was owing to a diseased condition of the sensitive papillæ.

Dr. Tyler Smith said that Dr. Marion Sims had given a name to a condition which he thought was far from uncommon in this country. Excessive sensibility and spasm of the vagina were sometimes quite distinct from vaginitis, and might be present when no disease of the mucous membrane existed. He had always considered it as hysterical spasm of the sphincter vaginæ, and treated it by division and dilatation. He had known such a condition interfere with intercourse for many years.

Dr. Tanner thought that the cases described by Dr. Sims and those alluded to by Dr. Oldham were quite distinct in their nature. As regards follicular inflammation of the vulva, Dr. Tanner was happy to bear witness to the accurate description of this troublesome disease which had been given by Dr. Oldham. Such cases were only to be cured by attention to the general health and sedative local applications. All irritating lotions or ointments did great mischief.

Mr. Spencer Wells could support Dr. Tyler Smith's statement, that these cases were sometimes seen without any follicular disease about the vulva. He had seen such a case where connexion had been impossible for three years after marriage. There was no hymen, or merely a rudimentary fold of mucous membrane, offering no impediment. This case was completely cured by introducing one of Bourjeaurd's artificial air-pessaries under chloroform, and keeping up dilatation for a few days.

PUERPERAL FEVER.

By William Tilbury Fox, M.D. Lond., Univ. Med. Scholar,
LATE HOUSE-SURGEON AT THE GENERAL LYING-IN HOSPITAL.

Inasmuch as five sixths of the women who die in the *after*-parturient state succumb to what is termed puerperal fever—inasmuch as French and American authorities have recently, in conclave, discussed the matter (thus, as it were, challenging discussion)—inasmuch as this disease exhibits, *par excellence,* authorities at issue—and inasmuch as a clear understanding of the nature of puerperal fever would materially tend to lower the sum of *preventible* mortality—it is not unbecoming on my part to introduce the subject to this Society, which is the apt representative of English obstetrics.

I may put in, as a claim to be heard, the fact of having specially occupied myself during my residence at the General Lying-in Hospital with the collection and close scrutiny of the evidence afforded by the cases of puerperal fever which have occurred there since 1833, and this opportunity was granted me by the courtesy of its retired and present staff. A mere abstract is here given, detail being quite impossible.

The mysteries of puerperal fever will probably be solved by a careful appreciation and induction of facts which have been rather than those which shall be observed; the like severe forms to those bygone will scarcely appear again, antagonised as the disease is by vast improvement in hygiène. A conclusion drawn from the facts of to-day or to-morrow will be vicious as regards the total disease, unless the modifying influences be considered. Now, unquestionably, the tendency of the present day is to regard puerperal fever as a disease *sui generis.* This is prominent in the Parisian dis-

cussion, and in the account of the recent epidemics, for example, at Munich in 1854, described by Dr. Buhl; at Berlin in 1854, described by Dr. Martin; at Wurzburg in 1859, described by Dr. O. von Franque. But it must be granted, however, that the error so pointedly referred to by authorities, especially by Drs. Rigby and Cazeaux, viz., the drawing conclusions of the nature of puerperal fever from sporadic cases, or from the character of one particular epidemic, attaches itself to the conclusions of these observers. This source of fallacy I have studiously avoided.

My material consists of cases which have occurred from 1833 to 1858, both inclusive, and includes five years of Dr. Ferguson's cases, some few only of which he has selected and published in detail. There have been so far as can be ascertained some 400 cases of puerperal fever since 1833, and 180 deaths. The following tabular view exhibits the details of 5833 labours which have taken place during the same period.

Table of Births and Deaths (latter of Moth

	1833		1834		1835		1836		1837		1838		1839	
	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	D
January	15	—	17	—	15	3	23	—	12	—	17	5	16	
February	15	—	13	—	13	2	25	4	11	—	—	5	19	
March	16	—	20	—	15	—	19	2	20	—	9	3	19	
April	18	—	20	—	17	3	18	2	24	2	18	6	9	
May	15	2	10	—	20	5	18	—	19	2	1	—	17	
June	14	2	16	—	12	1	16	—	13	—	1	—	14	
July	15	—	15	—	10	—	13	—	17	—	—	—	12	
August	15	2	15	—	11	—	15	—	9	—	—	—	10	
September	12	—	19	—	12	—	14	—	21	—	—	—	13	
October	17	—	19	—	26	—	18	—	19	—	—	—	19	
November	12	—	26	4	13	—	15	—	11	—	11	—	21	
December	15	—	19	1	21	—	18	1	20	—	14	—	2	
Total births	179	—	209	—	185	—	212	—	196	—	71	—	171	
Total deaths	—	6	—	5	—	14	—	9	—	4	—	19	—	
Per-centage of deaths for each year	3·016		2·381		7·567		4·245		2·04		26·76		3·1	

	1849		1850		1851		1852		1853		1854		185	
	Born.	Died.	Born.	Died.	Born.	Died.	Born	Died.	Born.	Died.	Born.	Died.	Born.	
January	30	—	22	—	19	—	23	—	31	3	9	—	24	
February	27	1	29	—	16	—	12	—	27	1	20	—	28	
March	27	—	15	—	19	3	16	—	24	—	8	—	27	
April	22	2	26	—	13	—	25	—	12	1	23	—	31	
May	?	—	16	—	7	1	14	—	17	—	32	2	15	
June	?	—	18	—	20	1	13	—	16	—	22	3	26	
July	?	—	15	—	9	—	23	—	19	—	20	2	20	
August	?	—	15	—	13	—	13	—	13	1	21	1	24	
September	?	—	13	—	14	—	12	—	15	—	17	1	17	
October	?	—	13	—	17	1	22	—	18	—	22	—	25	
November	?	1	12	—	19	1	27	1	20	—	25	—	33	
December	?	—	25	—	20	—	21	2	24	1	32	3	23	
Total births	277	—	219	—	186	—	221	—	236	—	251	—	293	
Total deaths	*	4	—	—	—	7	—	3	—	7	—	12	—	
Per-centage of deaths for each year	1·44		—		3·763		1·384		2·966		4·78		3·	

* 171 cases of 1849 are not calculated in the average and se

) *in the General Lying-in Hospital.*

40	1841		1842		1843		1844		1845		1846		1847		1848	
Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.
—	24	6	—	—	23	1	17	—	13	—	22	—	23	—	30	—
1	15	4	—	—	14	6	15	—	16	—	16	—	25	1	31	—
1	18	4	—	—	17	1	19	—	15	—	26	—	26	1	29	—
3	16	1	3	—	7	—	19	—	14	—	14	—	25	—	11	—
3	22	1	14	—	14	—	17	—	22	—	22	—	20	—	25	—
1	13	—	10	—	15	—	14	—	13	—	23	—	10	—	23	—
—	9	2	14	—	15	—	13	—	12	—	20	—	21	—	21	—
1	—	—	17	—	11	—	15	—	20	—	7	—	18	—	15	—
2	—	—	27	—	17	—	7	—	12	—	16	—	18	—	25	—
4	—	—	17	—	24	—	10	—	19	—	16	—	28	—	28	—
1	—	—	29	6	17	—	12	—	13	—	19	—	25	—	29	—
—	—	—	22	4	17	—	—	—	18	1†	17	—	26	—	27	1
—	117	—	153	—	191	—	158	—	187	—	218	—	265	—	294	—
17	—	18	—	10	—	8	—	—	—	1	—	—	—	2	—	1
045	15·384		6·536		4·188		—		·534		—		·754		·34	

56	1857		1858		1859		1860		Totals.		Per-centage of deaths to births.
Died.	Born.	Died.	Born.	Died.	Born.	Died.	Born.	Died.	Births.	Deaths.	
1	27	—	24	1	29	—	19	—	573	20	3·49
1	15	—	18	—	17	—	9	—	491	26	5·295
—	29	—	25	1	18	—	24	—	541	17	3·142
3	13	1	17	—	12	—	17	—	497	25	5·03
—	22	—	9	—	9	—	16	—	454	16	3·524
1	16	—	13	—	19	1	17	—	430	10	2·325
—	21	—	30	1	16	—	29	—	443	7	1·58
—	12	1	13	—	19	—	17	—	372	7	1·881
—	19	1	16	—	18	—	22	—	413	5	1·21
—	17	1	18	—	21	—	24	—	498	9	1·807
1	20	—	23	—	17	—	10	—	514	20	3·89
—	19	—	18	—	16	—	11	1	486	18	3·703
—	230	—	224	—	211	—	215	—	5833	—	Average mortality of mothers.
7	—	4	—	3	—	1	—	1	—	180	3·085
302	1·739		1·343		·473		·465				

, but are in the general totals.

† Ruptura uteri.

These statistics tell—

1st. That on an average of twenty-eight years there were 208 labours per year.

2nd. That most admissions occurred in the years (in order as follows) 1856-48-55-49-47-54.

3rd. That the years of greatest mortality were (in order as follows) 1838-41-40-35-42-54-36-43-51-55-39.

4th. That the total deaths, 180, exhibit an average death-rate of 3·085 per cent. of labours.

5th. That the following is the order of months (in relation to the influence of season) in which most deaths occurred—February, April, January, and November, (equal) December, March, May, June, October.

6th. Though the point does not appear in the tabular view, I have ascertained that about an equal number of primiparæ and multiparæ are admitted, many of the former being single.

With regard to pathology, my cases confirm the well-grounded opinion that puerperal fever possesses no peculiar anatomical lesion, nor is it necessarily accompanied by such; but that, in addition to a primary disorder of the (blood as evidenced by diminution of red corpuscles), augmentation at the onset of fibrin (which is soft and gelatinous), increase of pale corpuscles, diminution of the collective solids, increase of extractives, the presence of bile-pigment, free lactic acid, and fat, in excess, it is accompanied by a general softening process, and tissues (but especially the mucous and cellular) may be the seat of inflammatory change, acute, diffuse, puriform, multiform, in other words, pyæmic. In addition to this, I would call attention to the very frequent presence of lesion in the vaginal tract, erysipelatous, ulcerative, diphtheritic (Dr. Martin observed this in Berlin in 1858), gangrenous (Chavanne in epidemic at Lyons in 1850).

With regard to the existence of pure pus in the blood, we have yet to learn that it can be secreted by the lining membrane of vessels. The most recent denial has been given by Virchow.

Predisposing causes.—A short residence at the General Lying-in Hospital will furnish sufficient proof of the likelihood of the occurrence of epidemic disease, inasmuch as the *general health and aspect* of the inmates is markedly bad. Some are ill-fed, ill-clad; mothers of families of spare means, given, perhaps, to spirit-drinking, and suddenly losing, on admission, their accustomed stimulus; when at home usually marketing in such a locality as the contiguous New Cut, where, in place of good articles, fish and meat, cheap and unwholesome, is the select food offered to the public; then the dwellings of many are wretchedly bad, damp, ill-lighted, ill-drained, and without ventilation. This statement rests upon my own testimony. The better class of inmates is subject to other causes equally favorable to the occurrence of disease, especially mental distress. The single primipara, seduced usually under promise of marriage, upon whom the contemplation of her position has exerted a powerful depressing influence, and subjected, as she has been, to deprivation and depravation of the common necessities of life, through concealment of her position from friends, has lost her resistant power. The proneness to attacks of puerperal fever is infinitely greater in a single primipara than in any other.

Primiparæ generally are about twice as liable to be attacked as multiparæ. Of 300 cases in which the point could be noted, 189 were primiparæ, 111 multiparæ.

This difference involves an important explanation. It is probably due to the existence of perineal laceration in the one class and not in the other, for if (as will be argued presently) the majority of cases of puerperal fever are erysipelatous, the existence of recent wound which facilitates the ready ingress of virus will in the primipara render her more unguarded. My notes of the cases are deficient in evidence, and hence no statistical information is presentible; but repeated observation at the General Lying-in Hospital has convinced me that lacerations, slight though they be, are much more common than is generally admitted, and my vote of confirmation must be accorded to Dr. Snow Beck's observa-

tions, which show that 65 per cent. of primiparæ are so affected to an appreciable degree.

Puerperal fever is about equally fatal in the two classes of multiparæ and primiparæ, though the latter are more liable to attack. Of 146 deaths, 93 were primiparæ, 53 multiparæ.

Primiparous attacks	189	1 in 2·032
Primiparous deaths . . .	93	
Multiparous attacks	111	1 in 2·094
Multiparous deaths	53	

The above figures are not trustworthy, as showing the relation between the total deaths and total attacks, which is about one in three at the General Lying-in Hospital.

Observers remark the frequent occurrence of hæmorrhage; of 300 cases well reported, 43 had hæmorrhage, and 9 others severe loss of other kind, making a total of 52; these may be arranged thus:

A. Multiparous deaths—		
Severe hæmorrhage	11	
Long-continued diarrhœa before attack .	1	
Seventeen attacks of epistaxis before labour	1	
	—	13
B. Multiparous recoveries—		
Hæmorrhage		8
		21
C. Primiparous deaths—		
Hæmorrhage	10	
Venesection in labour	4	
	—	14
D. Primiparous recoveries—		
Hæmorrhage	13	
Venesection before labour	4	
	—	17
		31

It appears from these scant figures that hæmorrhage is a more grave symptom in multiparæ than primiparæ. Another

point worthy of notice is the fact of pyæmia occurring more frequently in those instances where hæmorrhage has taken place.

Bad ventilation and overcrowding.—Concentration, in fact, of all kind has been shown by Dr. Rigby to exert marked influence upon the epidemics at the General Lying-in Hospital. In going over the facts as stated by Dr. Rigby some time since in a letter to the 'Times,' the truthfulness of his statements have been verified in every particular.

The existence of a special and peculiar disease—puerperal fever—one *sui generis,* is certainly contradicted by the mass of cases which the records of the General Lying-in Hospital furnishes, for the disease is explicable by the action of an already well-known poison. One feature stands prominently out and colours every acute specific disease which is coexistent with attacks of puerperal fever—we express it by the term *malignancy,* and this has, in the eyes of observers, led to the supposition of special new disease. In the parturient state *local* diseases are, of course, peculiarly *determined* to the uterine and abdominal parts; hence, in the puerperic, maladies may not be so easily recognised on account of such unusual deviation, so to speak, towards one or other of these latter. Again, inasmuch as we possess indistinct views of what puerperal fever really is, during epidemics confusion is easy; and if, being guided by symptoms alone (*e. g.* pain, fever, and quick pulse, &c.), we adopt decisive treatment in an early stage, more especially if death occur, correction of error is impossible, from the want of a clear perception of the disease in its totality, and false impressions, thus derived and introduced into subsequent investigation, thwart our attempt to obtain a correct summary, and lead to contradiction and obscurity. Further, without detracting one jot from the well-merited prestige of obstetricians, it is clear that, as in the range of midwifery but one acute specific disease presents itself, the chance of comparing and contrasting puerperal fever with pyrexiæ of a kindred nature does not turn up so frequently to the ob-

stetrician pure as to the general physician. My meaning will be understood. In the one case the tendency of the practice is *contractive*, in the other *corrective*; that is, the man who travels over the wider field of observation (both of puerperal fever and other diseases) will be better conditioned to correct his conclusions in the one case by his observations in the other, and it is from such that evidence has been adduced in support of the proposition that puerperal fever is explicable by the existence of already well-known disease. In other words, it is not a disease *sui generis*.

Such are some of the elements of the confusion which surround the subject, and which have led to the mixing up together of similar diseases under the one head puerperal fever, the history of which appears to be a compound which may be represented as follows, under four divisions:

1. Acute specific diseases—
   - Remittent. (Dr. Schulten.)
   - Typhus.
   - Typhoid.
   - Erysipelas *par excellence*.
   - Scarlet fever.
   - Minor febrile states (*i. e.* aborted forms of virus disease).
2. Local inflammations—
   - Peritonitis.
   - Pneumonia.
   - Pericarditis.
   - Abdominal cellulitis.
   - Uterine phlebitis.
   - Metritis.
   - Angeioleucitis.

   ? of any truly local, but really pathognomonic of acute blood, disease.
3. Affections chiefly accompanied by pain—
   - Severe afterpains.
   - Prolapsus.
   - Distended bladder.
   - Sudden distension of bowels by air or acute tympanitis. (Dr. Ramsbotham, 'Med. Times and Gaz.,' May 9th, 1835.)
   - Morbid sensibility of—
     - *a.* Abdominal parietes.
     - *b.* Uterine walls, &c.

4. Excess of normal action—

Milk fever.

Normal reaction after hæmorrhage.

This list may sound startling to many ears, but its applicability requires decided limitation, for, with regard to the last two categories, it could be only during the existence of an epidemic that confusion could arise. Given an epidemic, and suppose the occurrence of acute afterpains or excessive milk-fever in an unhealthy subject, in a state of reaction after hæmorrhage, and it would be easy to become entangled in the idea of its being the onset of puerperal fever, when the true knowledge of the nature of the latter is, as at present, dubious; and suppose vigorous treatment to be adopted, the patient would be lowered sufficiently to give a loophole through which the poison might enter the system and produce puerperal fever, and in such a case, as has happened repeatedly, the true nature of the case is lost. The following are cases called puerperal fever, and occurred during epidemics.

Case 1.—Patient æt. 28, confined September 8th; primipara. 10th. Headache. 11th. Right breast large, tense; pulse 120; pain in bowels; tongue red at tip. To have calomel, antimony, and Dover's powder. 12th. Breast tense, painful; pulse lower.—Saline, with antimony, every six hours. 13th. Other breast tense and painful; pulse 110. Calomel and Dover's powder. Convalescent in a day or two.

Case 2.—McCarthy, æt. 26, fourth labour, confined April 25th, 1840. 26th. Doing well; pulse 100, soft. May 3rd. Slight rigors, headache; skin hot; pulse 100, full; tongue furred. Calomel and opium, castor oil. 4th. Bowels opened; better; pulse 96, less full. 5th. Convalescent.

Case 3.—Harriet Smithers, æt. 34, second labour; confined July 14th, 1840, with hæmorrhage to a serious extent. 15th, 8 a.m. Pulse 120; no pain; tongue clean, moist. 10 p.m. Going on well. Red wine. 16th. Rigors, followed

by perspiration; slept; pulse 128; skin cool. Castor oil, saline, with tartar emetic. Bowels confined. 10 p.m. Bowels opened freely. 17th. Cramps in bowels; no sleep; pain in limbs; recurrence of fever. Grey and Dover's powder. 18th. Slept; pain in limbs. Dover's powders. 24th. Convalescent.

The symptom *pain* has been looked upon as the chief guide, but has misled from having too much dependence placed upon it.

Dr. Hall Davis, if my memory serve me, has recorded a case of distended bladder mistaken for puerperal fever, in confirmation of which the narration of a case presents itself in my notes.

Eliz. Owen, æt. 28; delivered February 26th, 9 a.m., 1839; deformed pelvis; forceps case.

February 26th, 10 p.m. Good day passed; moist perspirations; pulse 96, quiet; abdomen tympanitic; not many afterpains; reported to have passed water. 12 p.m. Awake, restless; occasional afterpains. Morphia.

27th, 8 a.m. Good night, though did not sleep soundly; pulse 98; abdomen more distended, but chiefly tympanitic, taking the course of the colon; passes water; an enema brought away much flatus.—Vesp. Incontinence of urine. Abdomen to be poulticed and leeches applied, should there be much pain.—11 p.m. Poultice being removed, complained much of pain under pubis, incessant for last half hour, and nurse distinctly felt, anterior to the hard uterus, a soft swelling, which led her to suspect the bladder was distended. Catheter drew off two pints of fluid, the apparent tympanitis subsiding, and patient expressed herself in heaven.

A similar case occurred in December, 1839, which was actually leeched, and then relieved by catheter.

Prolapsus uteri mistaken during an epidemic in 1834.—Mrs. Harding, æt. 32, sixth child; delivered October 23rd.

30th (seventh day).—Sat up; headache; very bad towards night; pupils contracted; no photophobia; tongue white,

furred; no pain nor tenderness of belly; slight bearing-down; pulse 96; skin moist. Calomel and antimony.

December 1st.—Intense pain in belly, from pubis to scrobiculus cordis; abdomen relaxed, flabby; no headache; perspiration; pulse 86, very small and wiry, giving strong resistance to finger. Poultice; bleeding to sixteen ounces, which produced syncope, but did not relieve pain; calomel and opium. 8 p.m.—Pain relieved; slept; bowels opened, offensive. Antimony, calomel, and opium; retention of urine to be relieved by catheter, if needful; vagina to be washed out. "When the nurse was going to wash out the vagina she found the uterus blocking up the external passage; this was returned, and the woman was quite well next day. N.B.—This case was clearly mistaken at first for puerperal fever.

Sudden distension of bowels by air or acute tympanitis.—My notes give me no uncomplicated case, but only tympanitis consequent upon loss of muscular tonicity from peritonitis or severe purgation. There can be no doubt, however, that cases of the kind have misled observers less careful and shrewd than Gooch.

Afterpains, constipation, and muscular irritability, usually occur together, and in epidemics of puerperal fever offer deception.

Case 1.—Hannah Welch, æt. 24, confined November 26th, 1839.

27th.—Good night; severe afterpains; uterus tender; pulse 80.

28th.—Chilly; darting, shooting pains in uterus, lasted five minutes, when clot was expelled; headache; thirst; tenderness of abdomen for three hours, followed by profuse perspiration; pulse 94.

30th.—Clots passed with pain, and chilliness in uterine region, extending to hip; heat of skin; thirst; headache, and quiet pulse; hard and tender uterus. Got well.

Case 2.—Burke, æt. 27, third labour; confined November 12th, 1839; had severe hæmorrhage.

13th.—Afterpains; quick pulse; coated tongue. Opium and poultices.

14th.—Free from pain till now, when it has increased; abdomen distended; uterus large and tender; lochia scanty; tongue coated; thirst; pulse 120, weak; injection produced evacuation, with relief for an hour; pain returned; abdomen distended; tympanitic; uterus large, painful. Twenty leeches. calomel and opium.

15th.—Relief from leeches; pain returned, very bad, aggravated by pressure in right inguinal region; can't turn; pulse 130. Twenty-four leeches.—10 a.m. Better.—Vesp. Pain in back; pulse 135; restless. Morphia, camphor, and henbane.

16th.—Tongue brown; no pain; good night.

17th.—Countenance sunken; no pain; respiration laborious; pulse 130. Bleeding to fourteen ounces, tartar emetic and calomel. Right lung dull on percussion. At noon the respiration became laborious again, with increased distension of abdomen; pulse 140; an injection was followed by the passage, with relief, of fæces and flatus. At 2 p.m. coffee-ground vomiting and death, with an enormously distended abdomen.

Case 3 (*called puerperal fever*).—Ann Arnold, æt. 37, sixth labour; confined April 25th, 1841. Hæmorrhage; face and hands blanched; syncopal; rigors; quick pulse; hypogastric pain; pulse 144. Poultice, calomel and Dover's powder.

26th.—Pulse 128, weak; hypogastric and uterine pain less.—6 p.m. Afterpains returned; drowsy; no thirst. Dover's powder.

27th.—Slept; soreness less; tender at a small spot.—Vesp. Bowels relaxed five times.

28th.—No abdominal pain; pulse 108.

29th.—Pulse 120; tongue white; thirsty; no pain. Camphor and henbane, confection of senna.

30th.—Watchful night; pale; hypogastric tenderness. Enema and castor oil.—Merid. Bowels acted; much tenderness; tympanitis; much flatus; pulse 116.

May 3rd.—Convalescent.

23rd.—Saw her at home; leucorrhœa; pain in loins.

Case 4.—Gompertz; occurred in 1839; multipara; hæmorrhage twice recurring, rigors, abdominal pain, headache, which were attributed to the virus of puerperal fever. The expulsion of a large coagulum occurred, and the patient was well.

With regard to muscular irritability or false peritonitis, little need be said, except that the records present cases which confirm Dr. Gooch's original description; and, where there has not been a trace of disease found post mortem, the disease at the same time receiving the title of puerperal fever. We must carefully distinguish between these cases and such as die outright from blood-poisoning, without the occurrence of any anatomical change. The following case is instructive.

Lucy Fittock, æt. 18, single, primipara; confined February 22nd, 1839.

March 2nd.—"Called to her; said she had been ill last night; pain in abdomen and side, preceded by sensation of cold;" shrieks out on the most gentle pressure being made; pain equally bad on pressing muscles of right side; pulse 145; pain over left eye and brow. Physician ordered poultices, and to be bled in four hours, if not relieved, to fainting, and to take calomel. House-surgeon says—"I concluded the pain was muscular." Was not bled; Dover's powder.

3rd.—Slept; bears pressure.

4th.—Recurrence of pain. Physician ordered eight leeches, and calomel and opium.

5th.—Fourteen leeches and an emetic, calomel and antimony. Collapse came on, and wine and stimulants given freely. Result not stated.

Cases like these just quoted show—

1. That the expulsion of clots, especially after the oc-

currence of hæmorrhage, may be accompanied by pyrexia, rigors, faintness, and subsequent reaction, the effect of pain.

2. That normal afterpains are exaggerated by septic poison.

3. That when the uterus is loaded with coagula the lochia are usually scanty, presently offensive; the pulse is not so high, except when the pain occurs, and for some little time afterwards; the pain is localized especially in the back and uterine region; the uterus is high up and tender; pain is intermitting, and the febrile attacks are followed by perspirations; and yet when these symptoms are marked, mistake occurs.

4. That localized pain is, as a rule, muscular pain; diffuse pain is peritonitic. M. Beau, in the recent discussion at the French Academy, mentioned, as the chief guide in prognosis, that peritonitis limited to below the umbilicus usually got well, the fact being that such pain in nine cases out of ten is muscular, and not of an inflammatory nature.

5. That after severe loss of any kind constipation is the rule, and is conservative on the part of nature, and that in such cases purgatives are absolutely bad. Simple enemata, however, are beneficial.

6. That the retention and subsequent free absorption of clots, induced by the occurrence of hæmorrhage, is the starting-point of many of the attacks of puerperal fever, but this *per se* is incapable of *generating* the latter; it charges the blood with putrid fluid, forming a fit nidus for virus action. Two classes of cases can be defined under this head—the one is, when absorption of putrescence takes place, virus action is absent, and thrombus the rule, thrombus chiefly affecting the vessels leading from the absorbing surface. The blood is capable of being charged with a certain amount of foreign material, we know, but a point is presently reached at which nature checks further ingress by her beautiful conservative act—thrombus, and this takes place, it seems, just at the utmost degree of contamination which nature feels herself able to overcome by the ordinary modes of elimination. The opposite class culminates in pyæmia, where absorption

occurs after hæmorrhage especially, but where also virus action superadds itself, and tends to destroy the coagulating power of the blood. In this latter class we find a special eliminant, viz., abscess, the multiplicity of which we term pyæmia, called in play. I fear to take up the time of the Society with the details of cases.

Category 2 is headed "Local Inflammations."

This is merely introduced to refer to authorities who, like Dr. Lee more particularly, hold that local disease alone may constitute puerperal fever. Nothing presents itself in the clinical history of the General Lying-in-Hospital to support such a view.

We pass to Category 1, headed "Acute specific diseases," which contains by far the bulk of cases which make up the totality—puerperal fever.

A. *Typhus fever.*—The cognomen puerperal typhus, frequently used, will readily explain the confusion of the two diseases. Sir C. Locock has referred to an epidemic in the General Lying-in Hospital in 1838, spotted fever being very prevalent at the time in the London hospitals. Corroborative proof obtains in the reports, especially by Dr. Collins, of the Dublin Lying-in Hospital from 1826 to 1829.

Dr. Joseph Smith, in the discussion which recently took place at New York, referred to a case bearing upon this matter, and in the 'British Medical Journal' for November 8th, 1859, are two cases (reported by Mr. Garraway, of Faversham) of continued fever exactly resembling puerperal fever. It is proper to add, however, that petechiæ must not be mistaken for the rash of typhus. For example, at page 260 of Dr. Ferguson's book is the case of Elizabeth Manns, who had vaginal sloughing, "and the legs and thighs covered by an eruption like purpura *which soon disappeared.*"

B. *Remittent fever.*—The records of the General Lying-in Hospital furnish no evidence, but in the 'British and Foreign Medico-Chirurgical Review,' January, 1860, p. 277, is the following case of a woman, æt. 24, strong, who, after, a labour

of thirty-six hours, had rigors, followed by heat and profuse sweating; on the fourth day renewed shivering and heat, with sweating, restlessness and delirium, red face, glistening eyes, quick speech, and a pulse of 140 to 145; abdomen painless on pressure, but distended; lungs and heart free. She recovered. The case was called puerperal fever.

In vol. i of 'Obstetrical Transactions,' Dr. Uvedale West, under the head of "Puerperal peritonitis," notes a woman ill with remittent fever, having an easy, quick labour, followed by abatement of fever. On the third day a return of fever, with introduction of the puerperal element; pulse 130, small; but the patient had a good recovery.

c. *Typhoid.*—An epidemic of puerperal fever possessing all the aspect of typhoid fever occurred at Brakel, in Westphalia, in 1852, and was described by Disse: and, if my memory serve me, Dr. McClintock has recorded the like as occurring in the Dublin Lying-in Hospital in 1854-55. In the New York discussion, again, Dr. Clark, referring to a case which he does not seem to recognise as typhoid, said—"I wish to call attention to the condition of the solitary glands of the intestines in this they were swollen, filled with a milky fluid, and stood out from the surface of the mucous membrane in certain points like pustules, as they often do in cholera and smallpox" (he attaches great importance to this lesion in inducing pyæmia). He adds—"The Peyerian patches also participate in the diseased action."

The post-mortems at the General Lying-in Hospital afford no such proof as this, but the following case presents the symptoms, course, and duration, of typhoid fever perfect.

Edwards, æt. 34, third child, confined October 8th, 1839. Great distension of abdomen before delivery. 2 p.m.—Rigor, perspiration, headache, thirst, and pain, which last half an hour.

Continued well till 11th. 9 a.m.—rigors; perspiration; *pain in forehead;* thirsty; pain in belly, extending to thigh. Castor oil. Got better. Tongue moist, coated; skin acting freely; urine free; pulse 100, soft; slight pain in abdomen. 7 p.m.

Bowels opened; faint; pulse 125, small; tongue white, furred.

12th.—*Bowels acted freely in night;* abdomen tender; *tongue brown, deeply fissured, red at tip and sides; is very deaf;* pulse 100, soft.—6 p.m. *Bowels relaxed*; restless, excited.

13th.—Restless night, excited; bowels opened; tongue harsh; thirsty. Saline effervescent.

14th.—Restless night; throbbing of temples; can't bear light; pupils dilated; conjunctivæ suffused; pulse 110; *bowels opened, offensive, scanty;* unpleasant odour near bed. To be sponged; lotion to head, saline, calomel and James's powder.—10 p.m. Pulse 110, sharp; urine free; excited; gums tender.

15th.—Bad night; *delirious* pain in forehead and top of head; pulse 112; tongue coated *dark brown, fissured; liquid, offensive evacuations.*

17th.—Wine.

19th.—*Tongue tremulous; eyes more suffused.*

29th.—Abdomen doughy.

31st.—Moaning.

November 1st.—Lips dry; sordes on teeth; died. No post-mortem.

D. *Scarlet fever.*—Dr. McClintock read a paper before the fellows and licentiates of the King and Queen's College of Physicians in Ireland, on February 2nd, 1859, on the occurrence of scarlet fever, and notices the peculiar quickness of pulse and the tardiness of the occurrence of eruption. In the 'Dublin Quarterly Journal' for May, 1859, p. 472, are two cases recorded by Dr. Churchill, in which the symptoms were those of puerperal fever, and scarlatinal poison the virus; there was no eruption in these cases, but others in the house were attacked by the fully developed disease. There are a goodly number of cases of scarlatina scattered through the records of the General Lying-in Hospital; for example, in 1853, three occurred, if not more. Of one (Gray) it is said "it partook much of the scarlatinal

character of the febrile attacks of late"—in 1834 one, in 1839 one, in 1841 one, in 1842 one, &c. To detail these, which were marked cases, would be tedious. The point worthy to be noted is that at the time these cases occurred (in 1833 especially) many of the patients were attacked with what was called puerperal fever (in which there was absence of uterine pain, and peculiar, severe pain of the head), probably the result of the action of the scarlatinal poison. The discussion, however, of this opinion must be passed over.

In the 'British Medical Journal,' November 12th, 1859, Mr. Harrison records a case of uterine phlebitis, by infection from scarlet fever. He had just "opened an abscess in a fatal case (of malignant scarlet fever) before going to attend this patient." No eruption mentioned as having occurred.

It appears, then, that the scarlatinal poison may induce, or deviate in its local lesions so as to induce, symptoms like puerperal fever; that the eruption of scarlatina in such a case is often absent; and hence it follows that the confusion of the two diseases, scarlet fever and puerperal fever, may be easily accomplished.

E. A word *en passant* about pericarditis.

Virchow has lately (*vide* 'Union Médicale,' No. 65) called the attention of the Berlin Obstetrical Society to several cases of puerperal fever in which there could be found nothing to account for the symptoms but pericarditis, and he advances so far as to think this the starting-point of the disease. The mitral valve is the part specially affected by increase of cells—swelling, softening, opacity—becoming friable and ulcerated. He thinks that pieces of this are carried along the blood-current and cause embolism and consequent capillary obstruction and pyæmia.

If we accept what this high authority states we must admit that acute Bright's disease or acute rheumatism may be confounded with puerperal fever.

Now, eliminating all the diseases thus briefly enumerated, there still remains the major part of cases which constitute puerperal fever, and in vain may one seek in the detailed

cases of the General Lying-in Hospital for anything else to explain them than—

F. *Erysipelas*; and whilst proceeding to advance some arguments, *in limine* let it be understood that no claim is advanced as to the originality of this view.

The existence of a disease *sui generis* is unproven. Acute specific diseases have each more especially (1) peculiar modes of invasion, (2) peculiar eruptions, (3) peculiar pathological lesions, (4) peculiar courses.

The mode of invasion of puerperal fever, by rigors, quick pulse, and headache, is peculiarly that of erysipelas.

Puerperal fever has no peculiar eruption; an eruption does occur frequently, and it is that of erysipelas. In twenty-five of my cases the blush of erysipelas was present; and be it remembered that special attention was not directed to this point or attracted thereto, for the eruption is frequently seated at the vulva and buttocks (out of sight).

Sloughing of the vagina was noted (though not specially looked after) as follows, in—

29 primiparous deaths.
19 primiparous recoveries.
—
48
2 multiparous deaths (one a forceps case, one had laceration in her second labour).
—
Total . . . 50 cases.

The great excess in primiparæ shows most palpably that lacerations of the perinæum are quickly followed, oftentimes, by erysipelas and sloughing. This sloughing of the vagina appears to me to be a great argument in favour of the erysipelatous nature of puerperal fever.

That puerperal fever and erysipelas are rife at the same time is well known, and that during epidemics of the former the most malignant cases of the latter occur is undisputed.

The plan adopted by M. Dubois, at the Hôpital des Cliniques, perhaps offers remarkable proofs of their identity.

He scattered the parturient women amongst the other patients, and handed them over to M. Pidoux, who confirms to a scrupulous degree the correctness of such a view. For in a very little while he met with the most malignant cases of erysipelas and peritonitis, the slightest provocation being followed by the former.

The Registrar-General for Scotland, in his last annual report (1860), draws attention to the fact that the deaths from metria were unusually numerous, viz., 107, and the deaths from erysipelas far above the average, viz., 132.

In 1858 deaths from metria were	.	20
„ „ erysipelas	.	30
In 1859 deaths from metria were	.	34
„ „ erysipelas	.	39
In 1857 deaths from metria were	.	51
„ „ erysipelas	.	92

At the General Lying-in Hospital, 1838 was the year of greatest mortality, and in this year the death-rate of erysipelas was at its highest.

Winter	. .	57 males,	49 females	.	106
Spring	. .	57 „	48 „	.	105
Summer	. .	43 „	45 „	.	88
Autumn	. .	61 „	45 „	.	106
			Total	. .	405

During 1854-55 a larger number of deaths took place than in any of the few previous years, and 1855 was remarkable for an excess of deaths from erysipelas. There are causes in action peculiarly predisposing to erysipelas and puerperal fever alike.

Predisposing causes.

A. General—

1. Such as concentrate—Hospitals and their overcrowding.
2. Such as interfere with the patient's health—Bad ventilation, bad food, deprivation, hæmorrhage, and absorption of clots set. Mental.

B. Local—

Presence of irritation—Clots in uterus.
Presence of wounds—Perineal, placental.
Changes going on in uterus and peritoneum—Absorptive act accelerated.

The efficient cause.—The virus; its special attribute being malignancy. In the case of puerperal fever this attribute is deemed sufficient to guarantee the existence of a disease *sui generis.*

Points in which puerperal fever establishes its identity with erysipelas:

1. They are mutually reproducible. Mr. Bird, in his pamphlet on erysipelas, gives some sixteen authorities on this point. Dr. Lee, perhaps, gives the most forcible examples.
2. The character of the onset is that of erysipelas.
3. Prodromata slight.
4. Time of attack, frequently at night.
5. Occurs under same circumstances and seasons.
6. Progress to acute pus-formation.
7. Character of lesions—acute, diffuse, multiform abscess.
8. If eruption exists, it is that of erysipelas.
9. State of local wounds, &c.—painful, hot, tumefied, smarting.
10. Presence of lymphatic inflammation, bullæ, sloughings, erratic lesions.
11. Convalescence about ninth day or so.
12. Time of death, before tenth day (half between fifth and ninth in erysipelas).

No one who has watched an epidemic of erysipelas running on to hospital gangrene, and the post-mortem after a case of lithotomy, for instance, at such a time, exhibiting peritonitic and pyæmic lesions, can fail to see the true analogy of puerperal fever and erysipelas, and accoucheurs cannot but accept evidence obtained beyond the limits of the lying-in hospital towards the complete solution of the mysteries of puerperal fever.

In the history of puerperal fever at the General Lying-in Hospital (and confirmed by the accounts of the different

epidemics of other localities recorded from time to time), an interesting gradation defines itself.

Towards 1835 a good many cases had the erysipelatous blush upon them. In 1838 the most malignant form presented itself. In 1854-55 the same kind of type occurred as in 1835, being characterised in many cases by erysipelas of the vulva only.

Looking attentively over the records of British and foreign epidemics, we see differences in type, local lesion, and result, differences which must either be taken to signify the existence of several kinds of puerperal fever *sui generis* or which are merely various forms of one common poison; there are really no limits between each variety, they glide the one into the other imperceptibly. Erysipelas is the simplest condition.

Two of Dr. Ferguson's cases described as puerperal fever (viz., Forrest and Smith, 1835) had ulceration and a gangrenous condition of the vagina only. In 1855 three cases—of *Davidson,* attacked on the third day with erysipelas of the vulva and perinæum (a primipara by the bye); of *Caroline,* a primipara; and of *Neale,* a primipara—might be detailed, in which this lesion only existed.

The next grade is exemplified by an epidemic witnessed at, and described by Dr. E. Martin, of Berlin, in October and November, 1859. He called it colpitis and endometritis, succeeded by aphthous colpitis running into ovaritis, and gangrene, with peritonitis.

In 1850 an epidemic of gangrenous vulvitis, described by M. Chavanne, occurred at the Charité at Lyons, characterised by vomiting, fever, abdominal pain, œdema, redness of vulva. Recoveries took place at this stage; but if not, pultaceous plates, like Delpech's form of hospital gangrene, formed; recoveries ensued at this stage. In some instances the disease reached the uterus, and the patient presented all the conditions of intense puerperal fever, the gangrenous condition of the uterus being complicated by peritonitis.

The same was observed at Lyons in 1815. We learn, in

these instances, that the general conditions of the patients was satisfactory, the health of the neighbourhood good, the hospital well cleansed. Hence we see here one of the modifying causes in action, viz., when the general health is good, though the poison be virulent, the disease is more truly local, so to speak, the system possesses more capacity for limiting the disease, the latter is less diffuse. This is an important consideration in studying the history of epidemics.

Dr. Retzius is noticed in the 'British and Foreign Med.-Chir. Review' for July, 1861, as having recorded an epidemic of puerperal erysipelas which raged in the lying-in hospital opened January, 1858, at Stockholm.

At Munich, from 1854 to 1858, the same form of disease exhibited itself. Dr. Buhl collected fifty cases of puerperal fever, occurring under two forms—pyæmia and peritonitis, and in most of them the post-mortem examinations disclosed sloughing and putridity of the uterine surface (internal).

The same type of disease is exemplified in a communication which was read before the Academy of Medicine at Paris in 1860, by Dr. Martinenq (the title of the paper being "Sans uterus point de fièvre puerperale").

Lastly, the acme in the series is illustrated by the acute malignant cases of puerperal fever where the general blood-current is rapidly undergoing change, and where local lesions, diffuse in character, are speedily developed, and death sets in early. The system possesses no localizing power.

My notes offer cases of this latter aspect in which the eruption of erysipelas existed, as evidence of the nature of the attack.

Case 1.—*Symptoms of puerperal fever; erysipelas of vulva.*

Maria W—, æt. 22, second labour; confined April 17th, 1834; bled during labour twenty ounces.

19th.—Abdomen painful all over; uterus hard and painful; tongue red. Calomel and antimony, saline. In the evening abdomen worse; pulse 125; leeches twenty.

20th.—Leeches bled well; bowels opened; urine febrile; pulse 125; tongue loaded; headache; vagina dark and ecchymosed. Fomentations, grey powder.

21st.—Restless night; little pain in abdomen, *but pain and smarting in vagina and labia, latter much swollen;* vagina dark, an *erysipelatous blush* extending from perinæum over nates; pulse quick; headache; sick.

22nd.—Parts better. Bark. Became feverish, with abdominal pain. Dover's powders.

23rd.—Slept; purged, with tenesmus.

26th.—Purulent discharge from labia; acute rheumatism (*sic*) of left wrist.

28th.—*Vagina has sloughed.* Ammonia, bark, eggs, beef tea. After this, kept well up, a deal of sloughing occurred, and was convalescent on 17th of next month.

Case 2.—*Called puerperal fever; erysipelas.*

Mary M—, æt. 25, single, primipara; confined October 27th, 1839.

28th.—Uterus painful and tender; pulse 100; cough; dyspnœa; skin dry; constitutional irritation. Calomel and Dover's powder.

29th.—Pain at top of head; skin dry; pulse 100. Castor oil.—12 p.m. Rigor pain in head, back, and legs; vomiting; delirium; conjunctivæ suffused; pulse 130; severe abdominal pain; profuse perspiration followed, and relieved her. Sixteen leeches to temple; saline, with tartar emetic.

30th.—Pain all over, especially in uterine region; pulse 120; countenance flushed.

31st.—Better.—9 p.m. Incoherent, wild pulse, 120, hard, small. Bleeding to faintness, twenty-four ounces; back hair cut off. Better after bleeding; objects appear double. Salines.

November 1st.—Pain in head; restless; wandering; skin cool; sight imperfect. Blister, hot bottles, calomel and antimony.

2nd.—Starts up, alarmed by dreams; uterine pain; abdomen extended; delirious; pulse 110. Ten leeches to iliac fossa.

3rd.—*A blush extended across from side to side, below umbilicus.* Forty-five leeches, hot flannels; Dover's powders.

4th.—Pain. Six leeches.

6th.—Pain increased. Twenty leeches, opiate, enema. Different treatment adopted; porter, mutton, morphia; and *gradual* recovery took place.

Case 3.—Ann F—, æt. 25, primipara; confined April, 1835. Perforation case; had all symptoms of puerperal fever, with vaginal sloughing (gangrenous). Post-mortem showed ulceration of mucous membrane of the vagina, inflammation of cervix uteri, considerable swelling of the left nympha, and congestion of lungs; intestines and peritoneum healthy.

Case 4.—McG—, æt. 25, sixth labour; confined May 26th, 1835; had the symptoms of puerperal fever. "*An erysipelatous flush* and swelling occupied a surface of four inches square on the dorsum of the forearm." Post-mortem exhibited no sign of peritoneal inflammation; all organs soft; uterus large, soft; pus in forearm.

Case 5.—*Hæmorrhage; erysipelas; recovery.*

Jane D—, æt. 40, fourth labour; confined September 30th, 1839. Severe hæmorrhage; faint, blanched.

October 1st.—No sleep; pulse 120, small; very low. Brandy, beef tea.—7 p.m. Pain top of head; wandering. Camphor, henbane, and opium.

2nd.—Good night; pulse 110; rigor, followed by reaction in night; weight and general soreness of abdomen; thirst. Poultice and ammonia and opium.

3rd.—Pain in belly; uterus tender; bowels opened, with relief; faint; restless.

4th.—Pain in hips and thighs; cannot move; tympanitis. Relieved by catheter, Dover's powder, brandy.

5th.—Slept; faint; deaf; mucus in bronchi; pulse 100. Quinine.

6th.—Sleep; pain in hip; pain in back of hand, *which is swollen and reddened*; pulse 120, small. Quinine, camphor. 9 p.m.—Dimness of sight. Strong beef tea, arrow-root.

8th.—Hand worse, more swollen, going up arm; hip better.

11th.—Back of hand much swollen; skin tense. Wine; tension relieved by punctures.

14th.—Pain in ankle-joint; rigors. Abscess opened in hand.

22nd.—Right forearm *red and swollen.*

Got worse till 27th October, when port wine (three glasses) and a pint of porter, given daily, with good nourishment, and soon became convalescent. (N.B.—Erysipelas was very rife at this time.)

Case 6.—Ann S—, æt. 29, primipara; confined February 10th, 1835. Forceps case.

12th.—Headache, relieved by purgative; *labia swollen.*

13th.—Better; no sleep; manner hurried. Opium.

14th.—Oppression at chest; no urine; tongue dry; vomiting; anxious, irritable; pulse 144, feeble. Calomel every two hours.

15th.—Tongue brown in centre; slight pain in abdomen.

16th.—Restless. Wine, quinine.

17th.—Very weak, and rapidly sank at 9 a.m.

The post-mortem exhibited sloughing of the vagina and inside of uterus; intestines inflated; no peritonitis; viscera healthy.

Case 7.—Jane B—, æt. 21, primipara, single; confined October 21st, 1839; perinæum much tumefied.

22nd.—Severe pain in belly, extending to back, followed by rigors and reaction; intolerant headache; flushed; hurried respiration; thirsty; pulse 125.

23rd.—Chills; better otherwise; pain relieved by perspiration.

24th.—Better; irritative fever now came on; tongue coated; *sloughing and swelling of the perinæum* found out, which was attended to, and patient soon got well.

CASE 8.—*Puerperal fever; hæmorrhage; bronchitis; erysipelas; recovery.*

P—, æt. 22, (?) labour; confined January 6th, 1841; had hæmorrhage.

9th.—Ordered a purgative yesterday; acted five times within a short period, and in evening complained of chills; bad night; pain left side, near sternum; breathing hurried; flushed; pulse 130; "squeaking sound in the situation of aortic valves;" heart's action tumultuous. 4.30 p.m.—Worse. Twenty-four leeches over sternum; antimony, with salines. 9 p.m.—*Face shining, threatening erysipelas; lids swollen.*

10th.—Countenance dusky, swollen; bronchitis; pulse 130; bowels opened six times.

11th.—Pulse 100, feeble. Wine, eight ounces.

13th.—Stiffness and pain in left wrist.

15th.—Chop, porter.

25th.—Convalescent.

CASE 9.—*Puerperal fever (erysipelas) mania; bronchitis; death.*

N—, æt. 27, multipara; confined January 31st, 1841.

December 1st.—Frightened; rigor; pulse 120. Calomel and opium, castor oil.

2nd.—Bowels opened freely; flushed; skin hot and perspiring; pulse 120. Grey powder and opium, salines, aperient.

3rd.—Bowels freely open; abdomen full, and distended with tympanitis.

4th.—Dreams; *forehead has an erysipelatous blush about it;* scalp painful; pulse 126, sharp. At noon became ma-

niacal, after being alarmed about her child; pulse 140. 1.30 p.m.—*Forty drops of Battley;* at 2.30, *a grain of morphia;* at 3.30, *half a grain of morphia;* at 5, *ten grains of calomel and "soda drink."*

5th.—Sick after soda; pulse 116.—9 a.m. Pulse 140; excited. *A grain of morphia.* Became more tranquil; no sleep; eyes suffused from crying. At noon, *half a grain* of morphia; more natural; has taken beef tea; bowels acted. *Cold to head,* and salines.—8 p.m. *A grain of morphia.* —11 p.m. Slept one hour; pulse 136; convulsive twitches of hands. *Calomel and Dover's powder.*

6th.—Noisy in night; pulse 140. 12 p.m.—Pulse rapid; quiet; answers in monosyllables. Has had wine and beef tea. Extensive bronchitis of both lungs. *Half a grain of morphia.*

7th.—Much the same.

8th.—No sleep; pulse 120; six ounces of beef tea per anum every six hours.—4.30 p.m. *Had refused soda drink. Two drachms of salt, with sal volatile and a scruple of soda, thrown into stomach by stomach-pump; to be repeated every two hours,* with beef tea and wine at intervals; *half a grain of morphia.*

9th.—*An ounce and a half of chloride of sodium taken since use of pump.*

10th.—Wine. Quieter.

12th.—Bronchitis better; pulse 140; *abdominal pain and tympanitis.*

16th.—Gradually sank; vomited large quantities of green fluid, and died from exhaustion.

Case 10.—*Erysipelas of vulva; bronchitis; death.*

Mary N—, æt. 23, primipara, single; confined November 7th, 1842.

8th.—*Much œdema of labia observed, and the posterior part of the commissure and part of perinæum beginning to slough;* much irritability of system; bowels relaxed. Saline and opium.

11th.—Pulse 130; much tympanitis; pain on pressure over the abdomen; bronchitis.

12th.—Pain in uterine region; pulse 160; much tympanitis.

13th.—Collapse.

14th.—Great tympanitis; pulse 160.

18th.—Died.

Treatment adopted was the saline.

Case 11.—*Puerperal fever (erysipelas); sloughing of vagina; death.*

B—, æt. 24, single, primipara; confined January 20th, 1843; perinæum severely lacerated.

22nd.—Good night; motion without pain.

24th.—Doing well.

26th.—Most of perinæum has healed by first intention.

30th.—Hysterical; pulse 160; tongue red, dark at centre. Grey powder, wine, ammonia and cascarilla.

31st.—Delirious; bowels open three times. Half a grain of morphia every three hours.

February 1st.—Drowsy; quite sensible; bowels not opened; tympanitis. Calomel.

2nd.—Involuntary motions in bed; tympanitis less; pulse 170; more conscious. Acetate of ammonia and nitric ether. *The perinæum has assumed a very unhealthy aspect; it is erysipelatous, and inclined to slough extensively.*

3rd.—Diarrhœa; *abdominal pain;* not so much blush about perinæum.

No further report. Died February 6th.

Case 12.—B—, æt. 20, single, primipara; confined June 1st, 1854; is said in register to have "recovered from erysipelatous inflammation of the vulva and puerperal fever."

Case 13.—Emma Caroline H—, æt. 20, primipara; confined June 1st, 1854; pale, unhealthy; lived badly; large hæmorrhage, but did well under use of brandy and opium.

Fourth day.—*Vulva swollen, with a kind of erysipelatous inflammation,* and about the same time the pulse became more rapid; tongue dry and brown; delirium and colliquative diarrhœa set in; *a large slough* formed over sacrum, and in spite of all nourishment and stimuli she died on the ninth day.

Case 14.—Louisa N—, æt. 29, single, primipara; confined June 6th, 1854; perinæum lacerated; she fretted much; lived badly; the vulva became swollen, *and the perinæum attacked by erysipelatous inflammation.* Low diet and calomel and Dover's powder.

8th.—Parts sloughy; tongue brown; pulse 96. Calomel.

9th.—Parts very unhealthy. Next day diarrhœa came on, and she died, in spite of the use of wine.

Case 15.—R—, æt. 21, primipara; confined July 6th, 1842. Immediately prior to the escape of the head from the os uteri she was seized with a convulsive shivering, followed by slight stupor and stertorous breathing.

9th.—Complained all day of pain in right side; rigors; tenderness in groin; pulse 120; skin hot and moist; tongue furred.

10th.—Bowels opened seven or eight times. Opium and ammonia.

11th.—Lochia offensive; pulse 90, soft; *a slough found in the vagina.* Chop, porter. Recovered.

Case 16.—D—, æt. 38, primipara; confined April 22nd, 1855. The notes say this patient was attacked four days after delivery with erysipelatous inflammation of the vulva and perinæum, and was treated locally with nitrate of silver, and internally with brandy, ammonia, and port wine. She recovered.

Case 17.—B—, æt. 18, single, primipara; confined March 14th, 1841.

15th.—Fever; pain; pulse 120.

16th.—Salt mixture every two hours.

17th.—*Vomiting and purging since saline.*

18th.—Collapse; gums affected; diarrhœa, greenish.

19th.—Slimy, bloody motions. A drachm of calomel taken last two days.

20th.—*Vaginal sloughing, very dark.*

Died 28th, in spite of nourishment and stimuli.

Remarks.—In reflecting upon these and other cases scattered through the records it is impossible to avoid appreciating certain practical conclusions; among others—

1. That in the treatment, attention has been directed almost entirely to the *local* conditions, to the neglect of the general blood-state.

2. That the saline treatment is rather injurious than beneficial, decidedly so where tympanitis exists, and the latter is increased by the former.

3. That the exhibition of calomel is not followed by any definite good, but frequently induces uncontrollable diarrhœa, intestinal irritation, &c.

4. That the symptoms of puerperal fever frequently set in after, and seem to specially follow, the free action of purgatives.

5. That constipation is the rule after hæmorrhage, and is conservative.

6. That the erysipelatous poison spends itself, as it were, upon the internal rather than the external tissues, its outward evidences being deficient, partly, perhaps, on account of retardation by hæmorrhage, bleeding, &c.

7. That all lowering treatment, except at the earliest stage, is absolutely bad.

By thus tracing the disease over a wide field we arrive at the conclusion that erysipelas will explain all the symptoms and signs of puerperal fever, the latter differs from ordinary erysipelas essentially, in malignancy.

The influence of wound is highly important. Laceration

to slight extent, is the rule (and sloughing and erysipelas of the vulva are common) in primiparæ.

It, like hæmorrhage, facilitates the ingress of virus.

This opinion is strengthened by those symptoms which have followed the making of incisions for the relief of retained menses. Dr. Denman, requoted by Dr. Blundell, particularly called attention to two cases identical with puerperal fever, the result of erysipelas attacking the subjects operated upon; and in the 'Medical Times and Gazette,' April 2nd, 1859, is a clear case of the kind reported by Dr. Simpson.

During an epidemic at the General Lying-in Hospital the child of a woman who had puerperal fever was found to be tongue-tied; the frænum was cut, and the child at once was attacked with erysipelas of the part, of the most malignant type, and death followed; it is said "it had the aspect of puerperal fever.

MM. Bonnet and Phillipaux, of Lyons, adopted a practice for the prevention of phlebitis (*vide* 'British and Foreign Med.-Chir. Rev.,' 1848) which peculiarly exemplified the influence of recent wound, viz., cauterizing all recent wounds, and they declare that the practice was followed by peculiar immunity from the dreaded disease.

With regard to the utero-placental wound, the dissections of Dr. Duncan ('Brit. and For. Med.-Chir. Rev.,' 1848), confirmed by Dr. Chisholm and M. Coste, and which show that the mucous membrane is present over the whole of the uterine and placental site after labour, but that the openings of the utero-placental sinuses only are presented, remain unassailed, and therefore there can scarcely be recognised the traumatism which, after Cruveilhier, is often looked upon as similar to the stump after amputation. The inner surface of the uterus, is not so much a recent wound, as the lacerated perineal surface.

What determines the special course and tract in which the disease travels—why phlebitis now?—why peritonitis then?—requires a long answer. Briefly, it appears—

1. That the diseased action travels by contiguity, *e.g.*, from perinæum along vagina to uterus and peritoneum.

2. The peritoneum is undergoing great change, and is peculiarly absorptive after labour, hence there is a special determination to this part.

3. The uterus itself is undergoing rapid fatty change, and the removal of its disintegrated parts is effected probably chiefly through the lymphatics, hence where the substance of the uterus is much diseased, the lymphatics are very liable to become involved.

4. Hæmorrhage predisposes to the formation of clots, and renders the uterus irritable—clots become putrid, and are absorbed by the vessels which take on inflammation as a result, moreover hæmorrhage itself increases the absorptive act of the vessels.

One peculiar characteristic in the history of puerperal fever is the occurrence of pyæmia.

Its evolution appears inexplicable by Virchow's theory of thrombosis, by Rokitansky's disease of vessels—by phlebitis—by the supposition of a pyohemia, or by the presence of pus in the blood, &c.

It is clearly connected with the acute specific diseases. It has been before observed that the absorption of extraneous putridity will not *per se* produce septic disease, inasmuch as coagulation takes place before such an amount is introduced as will cause multiple abscess. Such absorption induces an ill-conditioned blood state, the like to that induced by cachectic diseases, but an acute specific disease must become engrafted thereupon before pyæmia can result; and this leads me to add that—

Pyæmia may be a feature of any one of the acute specific diseases. Given a bad blood state—an easy mode of ingress for virus—a cause accelerating absorption—and the supervention of an acute specific disease, pyæmia is very likely to result.

The most probable source of the solution of the nature of pyæmia would seem to be a generalization derivable from the several eliminatory processes which obtain in the various

acute blood diseases. The term pyæmia is surely a misnomer. Can we not safely affirm that with regard to the corpuscular elements circulating in the blood of a patient affected by pyæmia, nothing has been shown to exist but an excess of pale corpuscles in various degrees of development and retrogradation, which give resemblances to the pus-cell? Pyæmia simplified, means multiple abscess,—and abscess is special elimination. In acute specific diseases, what may be styled the ordinary eliminants may suffice to rid the system of waste, *materies morbi*, and the like, or the poison may kill acutely and cut short all conservative processes; or the disease holds on its course, ordinary elimination fails, but there is sufficient vital power remaining in the system at large to call in the aid of multiple abscess.

No process appears to me more truly conservative than pyæmia. It is a relative action carried on between the tissues and the blood, the pus-formation taking place in connective tissue, usually in conjunction and communication with thrombosis in the interior of the contiguous vessels.

Pyæmia is most frequent in those whose blood has been depravated by hæmorrhage, by cachexiæ, by intemperance, by want and bad living, prior to the occurrence of septic disease, and this is just what we should expect.

It is highly important to the view just stated, to remember that pyæmia occurs as a late phase, at the fag end of disease. It is disconnected from the prominent symptoms of the latter, the time of its occurrence is just before the onset of convalescence, at the decline of the disease. Nature has tried ordinary means, and not having succeeded, has appealed to special tissue actions to aid.

Time does not allow me to go into the question as to what determines the seats of the multiple abscesses.

Suffice it to repeat that after a careful survey of facts it appears that pyæmia may occur in any one of the acute blood diseases, and hence in puerperal fever, that it occurs at a late stage of the disease, oftentimes after the prominent symptoms of the latter have abated, and that *per se* it is a

special true conservative process, and that of all disease erysipelas is the one most frequently complicated by it.

In conclusion, let me add that the history of puerperal fever is a compound of acute specific and inflammatory diseases, with others markedly characterised by abdominal pain—that in the lying-in woman diseases put on an abdominal aspect, so to speak, they are determined to the uterus, the ovaries, the peritoneum, &c., and hence are apt to be mistaken—that the disease which is puerperal fever, *par excellence*, is erysipelatous, that in different epidemics we can trace the links which substantiate this identity, and no special characters of onset, progress or result, by which we can make a difference between puerperal fever and erysipelas, present themselves—that the mortality in lying-in hospitals is excessive, and in great part preventible.

Dr. Tyler Smith said the subject of puerperal fever was the most important which could occupy the attention of the Society. The whole obstetric mortality of England and Wales exceeded 3000 annually. Of this number of deaths more than 1000 women, or nearly three daily, fell victims to puerperal fever; and it was the healthy and vigorous primipara whom it was most prone to attack. The obstetrist could put before him no nobler object than the diminution of this mortality. Unhappily, we could not look to treatment to accomplish this. Under various circumstances, and in different countries, every variety of treatment had been tried and found wanting. If not curable, it was however preventible. It was not, therefore, to treatment, but to prevention, that we must look for the means of dealing with it successfully. If epidemics of puerperal fever were less rife now than in former times,—and at present they rarely occurred, except from the crowding of women in lying-in hospitals,—it was because we lived under better sanitary conditions, and paid more special attention to preventive measures. We should surround every lying-in woman, as far as possible, with antiseptic precautions. Nothing, he believed, would tend more to diminish the frequency of puerperal fever than the full recognition of its infectious and contagious nature, in whatever way it first occurred. It would not so often happen if all accoucheurs recognised the fact that erysipelas, typhus, scarlatina, smallpox, hospital gangrene, putrid sore-throat, diphtheria, the post-mortem and other poisons were excessively prone, if brought near the lying-in woman, to originate puerperal disease. He did not question but that any of the agents which produced zymotic maladies might cause puerperal fever,

or that it might arise in individual cases from the retention and putrefaction of portions of placenta or membrane or coagula, or the decomposition of fibrinous clots in the uterine vessels, especially in women who were predisposed by hæmorrhage, albuminuria, or other causes of debility; but contagion and infection, which might to a great extent be recognised and avoided, were its chief and most preventible sources. If all our means, in the way of prevention, were habitually brought into operation, he did not doubt that puerperal fever, instead of being the highest, might become a very moderate cause of obstetric mortality.

Dr. Tanner remarked, that the brief abstract which had been read of Dr. Tilbury Fox's paper could only give a slight idea of the value of this elaborate communication. He thought that the author had made out a case which was deserving of very careful consideration. Although the treatment of puerperal fever was surrounded by difficulties, yet it was clear that, if there was any truth in Dr. Fox's views, the usual routine plan of bleeding, leeching, and the administration of mercury must be abandoned. Dr. Tanner thought, from his experience, that we effected more good in this fearful disease by carefully treating it rather than by attempting to cure it. In other words, our plan should be somewhat similar to that now adopted in cases of fever, in which the object of the practitioner is more to guide the patient through the disorder than to attempt to cut it short by violent measures.

Dr. Graily Hewitt regretted that time would only admit of his making one practical observation on the important subject before the Society. With the remarks of the President as to the great necessity for paying attention to all measures calculated to prevent the occurrence of puerperal fever all must agree. The point to which he wished to direct attention was connected with the same part of the subject, the prophylaxis. It was remarkable in the recorded accounts of puerperal fever how very frequently the disease was observed in cases where copious hæmorrhages during or after delivery had occurred. The connexion between the hæmorrhages and the puerperal fever was to be found, he believed, in the loose, relaxed condition of the uterus present in cases of hæmorrhage, a condition which was extremely favorable to the absorption of morbid matters from without, supposing such to be present. In cases of post-partum hæmorrhage, the uterus often remained imperfectly contracted for some time after labour, and such cases were those which experience had shown to be especially liable to the disease under consideration. The practical conclusion was, that great attention should be bestowed on the condition of the uterus, and every means taken to ensure closure of the vessels by producing perfect contraction of the organ.

Dr. Chowne said he was bold enough to confess that he did

not know what puerperal fever really was, and he thought the profession was uninformed at present of the exact nature of this disorder. There are vast materials for the elucidation of this fearful malady, but they must be investigated and sifted by careful hands. He thought that a committee of the Obstetrical Society could hardly be better occupied than in attempting to investigate this dreadful disorder.

Dr. Tilbury Fox having briefly replied, the meeting adjourned.

December 4th, 1861.

Dr. TYLER SMITH, President, in the Chair.

Present—22 Fellows, 6 visitors.

The following gentlemen were duly elected Fellows of the Society:—Frederick Warningham Best, L.F.P.S. and L.M. Glasg., Stanningley, near Leeds; Joseph Cogan, M.D. Aberd., Wheatley, Oxon; William Collingwood, Esq., Ampthill, Beds; Hugh Croskery, Esq., L.R.C.S. Ireland, Chapelton, Jamaica; Robert Ellis, Esq., Sloane Street; Thomas Thrush Frankland, Esq., Ripon, Yorkshire; William John Harris, Esq., Worthing; H. Strangeways Hounsell, M.D. Aberd., M.R.C.P., Torquay; John Williams, Esq., Pontypool.

CASE OF A PATIENT WHO IN EIGHTEEN PREGNANCIES GAVE BIRTH TO ONLY SEVEN LIVING CHILDREN; THE ELEVEN OTHERS HAVING BEEN EXPELLED DEAD AT VARIOUS PERIODS OF GESTATION.

By W. Newman, M.D., Fulbeck, Grantham.

(Communicated by Professor Harley.)

Before making the following communication Dr. Harley remarked, that although it is well known that the fœtus in utero is, like the child after birth, liable to suffer from accidental as well as hereditary disease, the different morbid

conditions affecting the former are still very imperfectly understood. It occasionally happens that we find on the expelled fœtus direct evidence (1) of the accidental disease under which it laboured; as, for example, when its skin is covered with herpes zoster or smallpox eruption, and this too, independent of the condition of the parent as far as these affections are concerned; or, (2) of hereditary disease, as when the effects of syphilis are present. In by far the majority of cases, however, no direct or indirect clue to the cause of death can be discovered by a mere outward inspection of the dead child; and in such cases we are too frequently found attributing the death of the fœtus to the effects of syphilis, on the one hand, when the slightest trace of its existence in either parent can be discovered, or to some faulty condition of the placenta on the other, whenever the slightest grounds exist for such an assumption. Dr. Harley has himself, on careful examination in some such cases, occasionally found the death of the fœtus to be due to an entirely different cause; and as there can be no doubt that if we but knew a little more of the pathology of intra-uterine disease it might now and then be in our power to avert a fatal termination, every contribution in this direction ought to be welcomed by the obstetrician. Viewed in this light the following case assumes an importance it could not otherwise possess, for it points clearly to a cause of death in the fœtus that has been too frequently overlooked, namely, a want of formative power on the part of the mother; and in the present case it is seen to have increased with each succeeding pregnancy.

E. L—, æt. 43, wife of labourer, married twenty-three years. A worn, pale woman; says she has never had good health; has been subject to constant attacks of severe dyspepsia, but does not seem to have had any dangerous illness; these seizures have not been connected with the gastric disturbance of pregnancy.

There is no history of hereditary disease; the father and mother are both living; there is no evidence of either her

or her husband having had syphilis; she has three sisters; of these—

Two (married) have each of them several children, but with no circumstances calling for special remark.

One (also married) has had four pregnancies, all the children have been born at full time; none of them have, however, lived more than a few days.

She has been pregnant eighteen times. Menstruation has been somewhat irregular in recurrence, and usually too frequent. The pregnancies occurred, until the last two, *one* in every twelve months. An interval of four years has elapsed between the last two pregnancies. There has been usually but little sickness, &c., while gestation has been in progress.

Out of the eighteen pregnancies there have been born:

Alive and at full time	*Seven* children.
Dead (from 7 to 9 months)	*Seven* ,,
Dead (from 4 to 6 months)	*Four* ,,

Of the *seven* born *alive* and at full time; *three* are now living: male, aged 22, strong and healthy, her first child; male, 17, semi-idiotic, health robust; female, 15, always ailing and feeble.

Of the *four* dead; only one survived its birth more than a month; the others died when three or four days old; they did not refuse food, were not sick, but seem simply to have faded away.

Of the *eleven* born *dead*—

Seven. From seventh to ninth month of gestation no movement felt for some days before the ultimate expulsion. The labour attended more than once by very considerable hæmorrhage. In each instance there was an enormous quantity of liquor amnii, and the children were uniformly swollen and dropsical on expulsion.

Four. In these cases the fœtus was when expelled of from four to six months' uterine age. In all probability the fœtus was in each instance retained in utero as a lifeless mass for a period varying from one to two months.

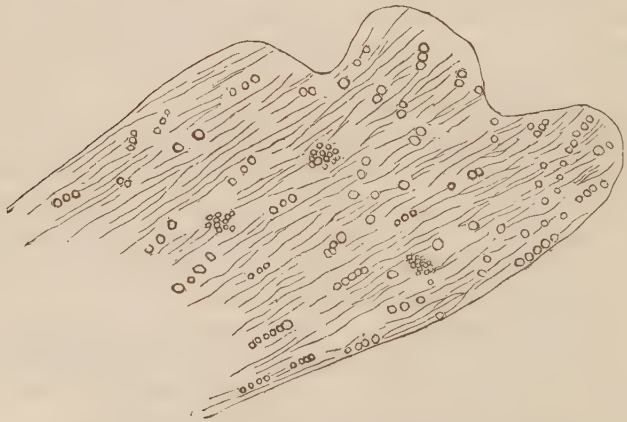
This opinion is founded on the size of child when expelled,

on the general disturbance of health, and more especially on the flaccidity of the breasts and abdomen noticed (in two instances by myself) some weeks before the process was completed.

I have on three separate occasions attended this patient in her confinement. The following details are copied verbatim from my note-book.

July 17, 1856.—Has been for some weeks incapable of the slightest exertion from enormous size of abdomen and great œdema of legs, &c. In labour for three hours when I saw her; sac of membranes projecting into vagina, and at once torn through; enormous quantity of liquor amnii; everything flooded with it; child expelled easily; œdematous in every part. Post-mortem examination showed all the serous cavities full of fluid; cord eight inches long, very thick and swollen; placenta very large, pale, and friable to a degree; lobules very losely connected to each other; cord came away from attachment with the slightest traction.

July 14, 1857.—Expects confinement in September; child expelled after easy labour; dead and decomposed; probably about five months' uterine age, and on this suppo-



The figure represents a portion of the placenta loaded with fat-globules.

sition retained as a lifeless mass some two months in utero; quantity of liquor amnii very small; placenta small, pale, and compressed, exhibiting under microscope fatty degeneration of tissue.[1]

April 28, 1861.—Expects confinement in July; menstruated last in October; has had hæmorrhage for last two days; fœtus dead; easily expelled; probably about five months; placenta small, flattened, and pale.

It is worth remark that in the *first* pregnancy alone was the child born in perfect health. This child, too, is the only one out of the whole number that has grown up in possession of sound physical and mental power.

The tendency to defective development in the offspring has progressively become more and more decided as the number of pregnancies has increased; in every one of the later pregnancies the child has been expelled dead.

This diminution of formative power has been strictly coincident with the decline in the mother's general strength.

CASE OF ABORTION; RETENTION OF THE OVUM WITHIN THE UTERUS, AND GROWTH OF MEMBRANES FOR A PERIOD OF FIVE MONTHS AFTER THE DEATH OF THE FŒTUS.

By Graily Hewitt, M.D., &c.

The case in question occurred in the practice of Dr. Stewart, of North Bank, Regent's Park, who forwarded the specimen now exhibited to me for examination. The account of the case given by Dr. Stewart was as follows:—

"Jane P—, æt. 27, married, having no child alive,

[1] In nearly all tissues undergoing degeneration after death fat-globules in varying quantity are to be observed, even when there existed little or no fat in the living tissue.—G. H.

aborted in April, 1861, being, as she supposed, nearly three months pregnant at that time. She was well in about ten days. She had but little hæmorrhage at the time, and cannot tell whether the fœtus and placenta came away, as she was taken ill, and a substance passed while at the closet which she did not examine. Since her convalescence she has had a repeated and almost continual flow of the menses —so she describes them—only differing in this respect, that the flow was always darker, thicker, and more offensive than on former occasions. On September 15th, 1861, pains similar to those of labour set in, and in an hour afterwards the substance now forwarded was expelled, accompanied with profuse hæmorrhage, pain, sickness, and fainting. She is now doing well."

On examining the preparation forwarded to me I found it to consist of a thick bag, having the shape of the cavity of the uterus, lined in part by a delicate membrane—the amnion. From the interior depended, by a thickish pedicle, an inch and a half long, a little body the size of a horse-bean—the shrivelled and otherwise altered fœtus. The decidua presents externally the well-known shaggy aspect, and has evidently remained in close vascular connection with the interior of the uterus up to within a very recent period. One portion of the decidua had undergone partial disintegration, softening, and putrefactive change. The case is interesting in a diagnostic point of view. It is evident that the fœtus died, and that the development of the ovum was put an end to in April, at the time of the supposed miscarriage; and as it is impossible that the specimen exhibited could have been the result of a subsequent conception, it follows that for five months the ovum so arrested in its development, remained in the uterus, and in a state of intimate connection therewith. The discharges observed by the patient, and considered by her to be menstrual, masked to her the real nature of the case.

KNOT ON FUNIS, IN A CASE IN WHICH THE FŒTUS WAS BORN DEAD.

By W. Sankey, Esq., Dover.

(Communicated by Dr. Holman, of Reigate.)

Mrs. M—, aged 43 years, in her sixth pregnancy, quickened about middle of January, and went on naturally for three or four weeks, when she perceived the motion of the child get weaker daily, and no increase took place in her size. On the night of April 2nd she was seized with a shivering fit, followed by faintness and vomiting, indistinct vision; and the milk began to flow, and continued to do so more or less till her confinement. The only internal sensation was that of pressure and forcing occasionally. Labour pains came on slightly about 3 p. m. on the 21st April, and in about twelve hours delivery was accomplished. The fœtus was not putrid, but the head was very flaccid. On proceeding to tie the funis I perceived a knot about mid-distance between the placenta and the body of the child, which it at once struck me was the cause of its death.

A case is related by Smellie (vol. ii, p. 335) where, between eight and nine months, a *tight-drawn* knot was in the middle of the funis.

The portion of the cord involved was exhibited to the Fellows of the Society. The knot was a single one, and did not appear to be very tightly drawn.

INSTRUMENT FOR THE REMOVAL OF POLYPI OF THE UTERUS.

Dr. Tyler Smith exhibited the instrument alluded to by him at the last meeting of the Society. It consisted of a rod and winch with double canula, made sufficiently strong to carry wire, and bear tension enough to cut through

the neck of a polypus at once. In his opinion the best practice was to remove polypi from the uterine cavity, and not to wait until they had been extended into the vagina. Many of the deaths in cases of polypus arose from delay in their removal, causing excessive and long-continued hæmorrhage, or the poisonous effects of the decomposing mass, when the ordinary ligature was used, and many days occupied in cutting through the polypus. With this instrument, and a single or stranded iron or copper wire, it was generally possible to remove a polypus in a few minutes, whenever the os was sufficiently open to admit the canula.

[The instrument, two thirds the natural size, is represented in Plate IX.]

Dr. Braxton Hicks remarked, in reference to the ease of applying his instrument in intra-uterine polypi, that he had had a case of that kind since the last meeting, and that he had found the method of carrying the wire rope round the growth, as he had shown, was very easy of application. In the instance referred to, the removal was effected in less than ten minutes, including delivery of it by the short forceps.

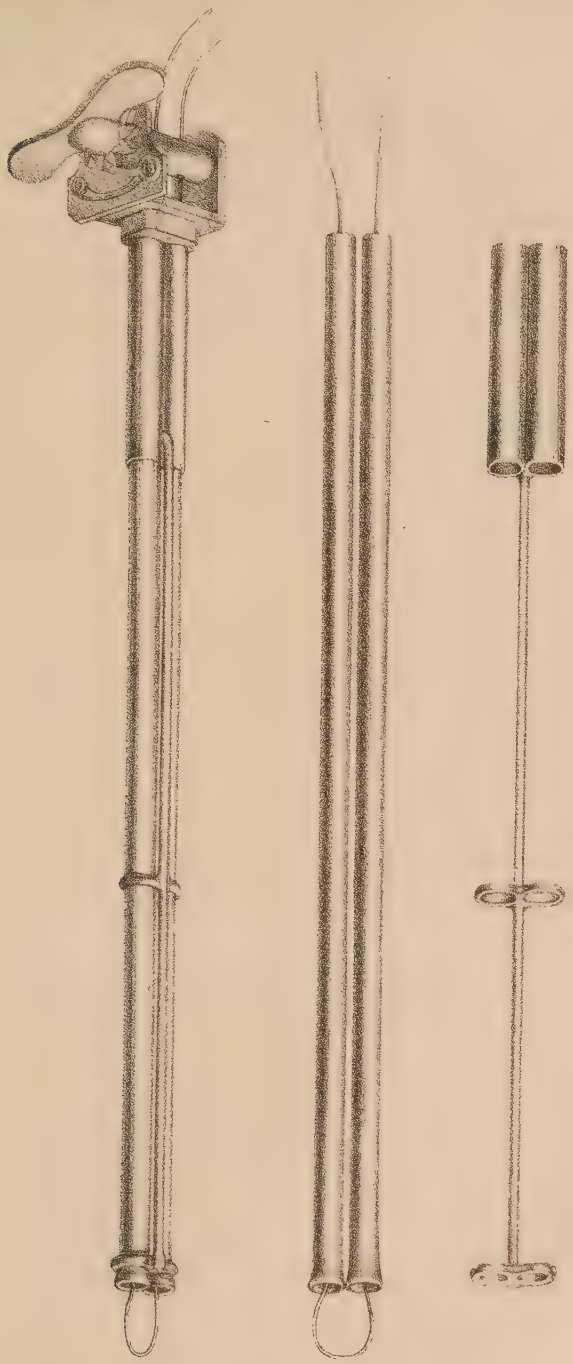
ON A CASE OF UNITED CHILDREN, OR DOUBLE MONSTROSITY.

By Henry Hanks, L.R.C.P. Ed. (Exam.)

(Communicated by Dr. Graily Hewitt.)

The mother who gave birth to the united children, whose photographs will be exhibited to the Fellows of the Society, was twenty-six years old, of robust constitution, and middle stature. Sixteen months ago she was delivered, after a lingering labour, of her first child.

About seven o'clock in the evening of October 17th of this year, she felt slight pain in the back, then in the abdomen, which, becoming more severe, I was requested to

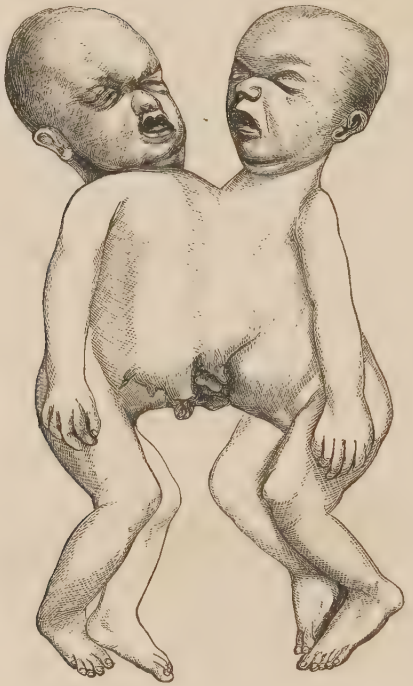


J.W. Whimper del.t. *Half the natural size.* W. West imp.

attend her between twelve and one o'clock a.m. on October 18th, during the absence of the medical practitioner she had engaged. On making an examination, I found that the membranes were ruptured, and that the presenting fœtal head had partly entered the pelvic cavity, with its occiput directed towards the pubes. Being disappointed in my expectations as to its rapid descent, and knowing that no diminution of the normal capacity of the pelvis existed, I carried my exploring fingers up to the brim, by which I detected a soft "convex substance" closely applied to the upper part of the chest of the infant. As it was propelled nearer the outlet by the strong uterine action, I ascertained that it was the caput succedaneum, situated over the vertex of another child, whose forehead pressed firmly on the neck of the first fœtus. A fold of umbilical cord was hanging loosely in the pelvis in advance of the head of the second infant.

Upon due deliberation I determined *not* to interfere with the position of the children, which nature had arranged to assist in overcoming the uncommon difficulty, but to attentively watch the progress of the labour with my mental eye, ready to meet any emergency which might arise. Shortly before five o'clock a.m. the head of the first child was extruded beyond the os externum. An arm being folded upon the left shoulder, I drew it externally to increase the space for the parts still unborn. As no dangerous symptom had occurred which demanded immediate extraction of the second infant, I relied on the natural parturient efforts, and moderate traction of the head of the first child, to ensure a satisfactory termination of the labour. A little after six o'clock the mother was delivered of two dead children, their trunks escaping simultaneously, without producing laceration of the perinæum. The funis umbilicalis, which was long, slender, and flaccid, encircled the neck of the second fœtus. It was attached to a single placenta. The children were joined from the top of the sternum to the umbilicus. The length of the first child was eighteen inches; the second seventeen inches. They measured eighteen inches and a half round

the shoulders. Their weight was sixteen pounds and a half.



The formation of the children was admired by several persons who saw them, especially that of the smaller infant, whose muscular development and width of pelvis were very characteristic of her sex. Their heads were covered with hair. Each child possessed two arms and two legs; their fingers and toes were perfect. The thoracic cavity contained two lungs, one pericardium, and one heart, which was situated in the centre, behind the sternum. The abdomen was common to both children; in its cavity was only *one* liver, one set of intestines, one spleen, and two kidneys. There were two urinary bladders. After the completion of the labour the mother suffered no greater exhaustion of the physical powers than that which is occasioned by an

ordinary birth; and her recovery was as favorable as of a female who had been delivered of a single child.

Dr. Tyler Smith remarked that the case of Dr. Hanks was interesting as throwing light upon the mechanism of delivery in monstrous births. The common opinion had been that they were delivered by a form of spontaneous involution; but in the present case the head of the second child followed immediately upon the head of the first, filling up the hollow between its head and shoulders.

Mr. Spencer Wells exhibited a

CAST OF THE FEMALE BLADDER,

which had been passed through the urethra on the morning of the meeting. The specimen consisted of the whole of the mucous membrane and some portions of the muscular coat of a dilated bladder. Mr. Wells said it was not uncommon for shreds of gangrenous mucous membrane to be passed in cases of chronic cystitis, and considerable portions have been found detached in the bladder after death, more or less encrusted with the saline constituents of the urine; but he believed that this case—in which a complete cast of the interior of the bladder had passed during life—was almost, if not quite, unique. The patient had been delivered of her first child some weeks before, after considerable force had been used with the forceps for two hours. Symptoms of cystitis came on, the urine became ammoniacal and very fetid, and Mr. Wells had been consulted on account of the cast appearing to emerge from the urethra. The patient seemed to be going on remarkably well.

Dr. Tanner (after inquiring if the patient had been able to pass her urine naturally) said that the preparation which had just been shown corroborated the truth of some remarks he made at the last meeting of the Society, when Mr. Spencer Wells exhibited a bladder which had been inflamed, and where death was thought to have resulted from the non-employment of the catheter. In the present instance there had been no retention of urine, and yet after a tedious labour inflammation had set in, and the entire mucous coat of the bladder had been thrown off.

Mr. S. Wells replied that the gangrene was due in both cases to cystitis. In the one case the pressure of the child's head, or of the forceps, might have produced the inflammation, and there was no retention; but in the other, the labour was perfectly natural, and there was retention of urine for sixty hours, quite a sufficient cause of cystitis.

Dr. Harley said that he had examined the urine of this patient some days before Mr. Wells saw her. It contained a very large quantity of carbonate of ammonia, some albumen, some blood-corpuscles, and afterwards a portion which floated on the surface was found to be distinctly chylous.

Dr. Barnes related a case which had recently been observed in the London Hospital. A woman was admitted for the immediate purpose of having a catheter which had been lost in the bladder extracted. The catheter was removed by Mr. Maunder. The patient, suffering from retroversion of the gravid womb, came under the care of the speaker. Some time afterwards the resident-accoucheur, while introducing the catheter, felt its point obstructed by a solid substance in the bladder; a portion of this substance appearing at the orifice was seized, and the whole drawn out. It was a large sac, exactly resembling a bladder. Examined by an accomplished histologist, it was concluded to be, not the exfoliation of the inner coats of the patient's bladder, but the bladder of an inferior animal which had been surreptitiously introduced. Upon this point the author did not express any opinion of his own. The patient had apparently quite recovered.

Dr. Priestley said that similar casts of mucous membrane were shed from the interior of the uterus, and Dr. Farre had described cases in which nearly the whole of the mucous membrane of the vagina had been shed; so that it was not surprising that the mucous membrane of the bladder should also be shed. But he thought, as this was one of the first cases, if not the very first, in which such a shedding of the bladder had been actually observed, a careful microscopical examination should be made of the specimen, and the description preserved in the 'Transactions' of the Society.

It was ultimately arranged that Dr. Harley and Mr. Spencer Wells should prepare a detailed report on the specimen for the next meeting.

A CASE OF PERITONITIS CAUSED BY ESCAPE OF PUS OR PUTRILAGE FROM THE FALLOPIAN TUBE INTO THE ABDOMINAL CAVITY, FOLLOWING ON ABORTION ARTIFICIALLY INDUCED.

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Under the names of Salpingitis, Metro-Salpingitis, and Salpingitis puerperalis, several German authors have within the last few years described cases in which the mucous membrane of the uterus or Fallopian tubes having been primarily inflamed, the resulting pus or ichor escaping into the abdominal cavity, was the cause of fatal peritonitis. Cruveilhier and Pellizari had previously suggested the possibility of this accident; but they considered that the pus did not originate in the Fallopian tubes, but was sucked into these from the uterine cavity.

Professor Ed. Martin, of Berlin,[1] related to the Berlin Obstetrical Society, on the 8th of November, 1858, the histories of five cases in illustration of this mode of origin of puerperal peritonitis. In these cases there was purulent secretion of the swollen mucous membrane of the uterus and Fallopian tubes, and more or less considerable collection of pus in the outer end of one or both tubes. The side of the pelvis and iliac region adjoining the diseased tube was filled with fresh pus, the convolutions of the intestines, the omentum, and adjoining parts, were covered with fresh exudations, and in several cases the entire abdominal cavity was filled with various kinds of exudation. Martin did not find in this form of disease, phlebitis, or thrombosis of the veins,

[1] "On Inflammation of the Fallopian Tubes and discharge of Purulent Secretion into the abdominal cavity, as a cause of the Peritonitis of Lying-in Women." ('Monatsschrift für Geburtskunde,' Jan., 1859.)

but in one case there was lymphangitis proceeding from the middle of the inflamed tube. This metro-salpingitis Martin says does not always first arise in the puerperal week, but sometimes during gestation. The symptoms observed were as follows :—At a stage when involution of the uterus had made considerable progress, the enlarged tubes might be felt. When escape of pus takes place, sudden acute pain follows, then fever. The quick-ensuing tympanitis may obscure the signs of peritonitis.

Dr. F. Howitz published,[1] in December, 1858, a very interesting case. An unmarried servant was admitted into hospital on the 7th October, 1858, from a house where there were cases of typhoid fever. She herself was suffering from febrile symptoms. The uterus was enlarged, and on examination some coagula were felt in the vagina. Copious and very fetid discharge followed. The abdomen became tympanitic, and the patient died on the 19th. On dissection, upwards of a quart of grayish-green very thin fetid fluid was found in the true pelvis and at the sides. The peritoneum was slightly injected; here and there the intestines were agglutinated by soft adhesions. On the peritoneal coat of the Fallopian tubes soft false membranes were observed; the tubes themselves were thickened and swollen; both from their abdominal and internal opening a fluid could be expressed exactly resembling that found in the cavity of the peritoneum. The uterine cavity was partly filled with a fluid resembling that in the peritoneum. On the posterior wall of the body of the uterus was a mass which hung down into the orifice, of an oval form, and as large as a pigeon's egg, loose below, adherent above. It seemed to consist of gangrenous areolar tissue, a quantity of minute cords like vessels, and membranous prolongation; in it was a dark-brown coagulum of blood; there was no trace of a fœtus. Dr. Howitz concluded that in this case the

[1] "On Peritonitis, caused by Obstruction to the discharge of Pus from the Uterus through the external orifice." Hospitals Tidende, Copenhagen, 8th Dec., 1858; and 'Dublin Hospital Gazette,' June, 1860. (Translated by Dr. Moore.)

discharge of offensive matters from the uterus by the cervix and vagina became obstructed by the mass of the decomposing ovum or coagulum plugging up the os internum; and that hence, it was driven to make its way along the Fallopian tubes into the peritoneal cavity, where it excited inflammation.

Towards the end of 1859 Förster published[1] a memoir on this subject. He suggested that there were three ways in which inflammation of the Fallopian tubes might cause peritonitis: 1, by direct continuation of the inflammation through the ostium abdominale to the surrounding peritoneum; 2, by perforation of the tube, and discharge of ichor or pus into the abdominal cavity; 3, by escape of pus through the open mouth of the tube. The first form, says Förster, is very frequent; it is the result of catarrh of the tube, and is found sometimes on one side, sometimes on both. The peritonitis is circumscribed, and is attended by the formation of fibrous adhesions. This form is frequent amongst prostitutes, and arises independently of pregnancy. The second form is almost entirely the result of puerperal complications. Its course is mostly chronic; the pus accumulates gradually in the tube, until at length a perforation takes place. Förster relates two cases of this kind. The third form, he says, is the most rare. It may be either connected with the puerperal condition or not. He relates one case in illustration.

Vocke[2] relates another case of puerperal origin. On the ninth day after labour a young woman, her progress to that time appearing satisfactory, was suddenly seized with acute pain in the seat of the left ovary, and died in forty-six hours. In the abdomen were found several quarts of sero-purulent exudation. The peritonitic signs were all most intense around the opening of the left tube. This tube gave forth little streams of pus when it was squeezed towards its end.

[1] "Ueber Peritonitis in Folge purulenter Entzündung der Eileiter." ('Wiener mediz. Wochenschr.,' Nos. 44, 45, 1859.)

[2] "Salpingitis puerperalis." ('Medizin. Vereins-Zeitung,' No. 4, 1860.)

In 1861 Ed. Martin[1] related two further cases.

Happily in this country we do not support large lying-in hospitals as they do on the Continent. We do not, therefore, manufacture puerperal fever on a large scale. Our opportunities of observing many of the complications and varieties of child-bed fever, with which our continental brethren are so familiar, are consequently rare. It is, indeed, a subject of congratulation that we derive our first knowledge of purulent inflammation of the Fallopian tubes as a cause of peritonitis, from abroad. It can scarcely, however, be doubted that cases of this kind have occurred amongst us. That their true character should not have been detected may be accounted for by their rarity, and from the attention of obstetrists not having been directed to them.

The following case is one of especial interest. Some of the particulars I derive from the depositions taken by Mr. Humphreys, the coroner for East Middlesex, who submitted the case to me for a medico-legal opinion. The account of the post-mortem examination I have taken entirely from the notes supplied to me by Mr. Oliver, House-Surgeon to the London Hospital, who assisted Dr. Corner at the autopsy.

The patient, aged thirty-four, had given birth to five children, the last four years ago. She had never aborted before. When pregnant, in September last, she consulted a person who "used instruments" to her. She was taken very ill, and on the 1st October she took to her bed; she told a neighbour who came in to see her that she was suffering pain from miscarriage. This neighbour describes the product of the abortion as twins of from four to five months. When seen by Dr. Corner, on the 6th October, she was in great pain over the bowels and womb. She died the same night.

Post-mortem examination. — "The brain and thoracic

[1] "Salpingitis als Ursache der Peritonitis puerperalis." ('Monatsschr. f. Geburtsk.,' March, 1861.)

viscera were apparently healthy. Upon making an incision into the abdomen a quantity of turbid serous fluid, with shreds of lymph floating in it, escaped; of this from five to seven pints were removed. The peritoneum was discoloured in patches of a dirty gray hue. The uterus was larger than normal, being about the size of one's fist, and rather flaccid. On the lips of the os uteri were three distinct punctures, large enough to admit the point of a small probe; the lips were also a good deal bruised. The mucous membrane lining the uterus was covered with pus and disintegrated blood, forming a layer of an inch in thickness, and giving it a blackish-gray colour. (In Dr. Corner's deposition it is added, that 'a small portion of after-birth remained.') On slitting up the Fallopian tubes little masses of pus could be seen at intervals, and in the left one pus was distinctly traceable into the abdominal cavity."

That the pathological changes began in the uterine cavity upon the violent avulsion of the ovum, I entertain no doubt. Inflammation was here set up by the decomposition of the placental remains, and of blood; it spread along the Fallopian tubes, resulting in the formation of pus, and escape of pus, perhaps with ichorous matter or putrilage, into the abdominal cavity. Hence the peritonitis. The history of the case I think sufficiently points to this conclusion. But I was the more satisfied that the sequence of events suggested was correct, by the clear description of the post-mortem appearances spontaneously given me by Mr. Oliver, who himself, unaware of the peculiar interest of his observation, attributed the peritoneal inflammation to the discharge of pus from the Fallopian tubes.

As far as my information extends, Mr. Oliver is entitled to the credit of having observed the first case of the kind recorded in this country.

ON CAUTERIZATION BY ELECTRIC HEAT IN THE TREATMENT OF CERTAIN DISEASES OF WOMEN.

By Robert Ellis,
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More than ten years have elapsed since the author of this paper brought under notice of the profession the application of electric heat for the surgical treatment of uterine disease. At that period the experiment of utilising this source of heat was a new one, and had only been directed by Mr. Marshall to the treatment of certain affections of the rectum, and by others to the destruction of the pulp of carious teeth. In the treatment of the surgical diseases of women, the cases published by the author in 1852 were probably the first in which cauterization by electric heat had been attempted. Since the publication of his pamphlet on this subject, others in this country have found advantage in having recourse to this surgical means, and it has been still more extensively adopted in France and Germany. Some of the French instruments are so similar to that originally introduced by the author, as to make it possible that the resemblance was not a mere coincidence—a description of the author's cauterizer, with an account of its mode of use, and notes of several cases in which it had been successfully employed, having been published in that year.

Very gradually has cauterization by heat since that time been partly admitted to the position it had lost in the estimation of medical men. The actual cautery had long been almost banished from English practice. Nor can this be wondered at, when we take into consideration the nature of the means employed. There was an apparent cruelty about the furnace for heating the iron, and the glowing olive, which, added to its inconveniences, more than anything else helped

to exclude this agent from the surgeon's use. It was impossible to get rid of these objections, and the actual cautery consequently fell into disuse. The real question of therapeutic value was never raised; in fact, had long been settled in the affirmative. So soon, however, as the ingenious suggestion made by Mr. Marshall cleared away the grounds of terror and inconvenience, and placed in the surgeon's hands an instrument as potent and far more handy than the heated olive, it might have been thought that cauterization by heat would again be as frequently adopted as before. Such has not been the case, for it is an unfortunate circumstance that nothing is more difficult to regain than the reputation of a remedy fallen into disuse.

The object of the present paper is to show cause for the reconsideration of this subject, and to describe a very simple and commodious arrangement for employing electric heat, together with a few notes of cases treated by its means.

Sound principles for the use of cauterization have scarcely been laid down with sufficient distinctness in surgical works. And before all others, one important fact has been overlooked, namely, that escharotics have a differing ultimate value. It is surprising that so little advantage has been as yet taken of our knowledge of the results arising from the accidental injuries produced by these substances. Some caustic substances produce a great loss of tissue, and the resulting cicatrix is very contractile. Others, apparently equally powerful, leave a less decided indication of their effects. There is, for example, a very marked difference between the chloride of zinc and potassa fusa. Nor can this be wholly explained by having regard to the differing chemical affinities of these substances. It would almost seem as if an empoisonment of the tissues, leading to a corroding ulceration, occurred when some substances are used; and when others, a benignant and kindly-healing sore is the result. In the author's opinion, a distinct character is stamped upon the living tissues by many of the substances thus employed by the surgeon, and this character affects the ultimate result of his treatment.

Of no cauterizing agent is this so true as of heat. There is little apparent difference in the sore produced by the actual cautery and that by means of strong nitric acid, during the suppurative stage. But after healing there is the most marked distinction to be drawn between the two. The cicatrix of a burn, built up of cells of feeble vitality, shows a singular inaptitude for extension. After a time, indeed, it contracts, as is well known, in a very remarkable manner, and if not the subject of morbid change, as of Keloid, is for ever afterwards distinguished for its pale and bloodless aspect. It may be conjectured that this difference of reparative growth is attributable to a greater or less interference with the innervation of the affected part, and that a certain shock is given by the actual cautery, which is evidenced by its after consequences in the low organization of the structures restored.

It is upon this fact—namely, the contraction of the cicatrix—that the chief value of the cautery by heat depends, and it is in a great measure peculiar to it. The anatomical nature of the structures, with which, as obstetric surgeons, we have chiefly to deal, suggests the employment of such an agent as this. Their vascularity, the laxity of their texture, and the slightness of their fibrous framework expose these structures to the invasion of a class of diseases in which the congestive prevails over the inflammatory type. That remedy which will in its ultimate effects most efficiently control this tendency, is, therefore, the best adapted for our use, and it is to be found for many cases in cauterization by heat. Next in therapeutic order may be placed a saturated solution of nitrate of silver in concentrated nitric acid, and the potassa fusa. While, however, we draw to a certain point a true line of comparison between the action of the actual cautery on the skin and on mucous surfaces, beyond that point the comparison ceases. For the actual cautery produces no injurious tendency to contract, and form horny cicatrices in the mucous structure. It is probably the comparative absence of fibrous elements in these tissues which confers this immunity to a certain

extent upon them. It is not, of course, meant that mischief may not be perpetrated by the use of this as of any other cauterizer, but that the same degree of inconvenience resulting from burns on the skin is not met with in treating affections of the soft parts in women. Such tendency as there is to contract is no more than is useful, and is entirely within our control. It may, perhaps, therefore, be admitted that the physiological action of this agent entitles it to the consideration of the obstetric surgeon as a valuable part of his armament.

The important question of pain in its employment must not be lost sight of, and it may be averred that the actual cautery, skilfully employed, is not more—is probably less painful, than any of the potential caustics used to its preference. A considerable experience in its use enables the author to state positively this important principle. Medical men have too generally associated the idea of pain with the strength of a caustic, and especially in treating the diseases of the genital mucous tract in women. The idea is entirely fallacious. That agent gives the most intense pain, in these cases, which excites without being able to destroy the sensory nerves of the affected part. The writer has seen the most acute suffering from the application (it ought to be said the misapplication) of lunar caustic to a vascular tumour of the urethra—while that of the actual cautery, or the strongest procurable nitric acid, has been comparatively painless. In a case presently to be quoted the patient preferred the application of the electric cautery at a white heat to that of a small fragment of chloride of zinc. There is, probably, no rule in surgery more true than that it is the timid hand which inflicts the greatest suffering, and the same is unquestionably true in the practice of cauterization.

Having thus attempted to define the physiological action of this surgical agent, the simple apparatus necessary for the application of electric heat may now be described. The cauterizer originally introduced by the author, and specially applicable to the treatment of certain phases of the uterine ulcer, was constructed out of a straight tube of

silver, about ten inches in length. Within this was a straight piece of stout copper wire, clothed with an elastic catheter, so as to insulate it from the silver tube. These formed the two poles of the cauterizer, and metallic connection was made between them at the upper end by a fine platinum wire; at the lower they were joined to the battery wires by a clip. In order, however (and in this part consists the chief value of the instrument), to collect a sufficient body of heat for acting on such a surface as an ulcer of the cervix uteri, a short piece of porcelain was introduced at the top of the cauterizer, and supported the platina wire. Immediately on closing the galvanic circuit the platinum became white-hot, and the porcelain, receiving its heat from the spiral coil around it, became also white-hot—the heat, of course, vanishing on the circuit being again broken. This instrument has since, apparently, been copied by the French and Germans, and in various forms, imitative of the old iron olive, applied to the service of cauterization by electric heat. Up to that time only a heated wire had been used by Mr. Marshall and others, and the idea of accumulating its caloric into a substance of the form of the ordinary stick of caustic had not been previously entertained. For severe and intractable cases of ulcer of the cervix uteri this instrument has a special value. But for slighter cases, in which a few touches only are requisite, the following is more handy, and it is also more generally useful than the former.

It consists of the ordinary handle of the cauterizer used by dentists, with the very convenient button for making and breaking the electric circuit at will. But, in order to fit it for our purpose, the conductors require to be lengthened, so as to make, with the handle, a tool of about twelve inches in length. By soldering in a couple of silver sockets to two stout wires, it is possible to have a long or a short instrument at pleasure, for the sockets can fit over the extremities of the short conductors, and thus form an arrangement sufficiently long to reach the cervix uteri, if that be desired. The cauterizing end of these conductors is formed of a piece of fine platina wire, doubled into the shape of an inverted Λ.

This forms a most commodious instrument, simple in its construction, and very efficient in practice, and for various reasons it may be preferred to the former for all ordinary uses. It is shown in Plate X, fig. 3.

One of the great obstacles hitherto to the adoption of this mode of cauterization has been the source of the heat—the battery. And the author has given much attention to this part of the apparatus, so as to produce a form of battery at once simple and of sufficient energy. This has at length been accomplished, and in the battery now exhibited to the Society simplicity and energy are united in a very remarkable manner. For the purposes of dentistry, the battery commonly employed is that of Smee, and from four to six cells are required, each holding a pint of dilute sulphuric acid, in order to heat the wire to whiteness. The price of this arrangement is about three guineas, and it forms an instrument more than a foot long, eight inches broad, and six or seven in height. It is, in fact, an object of some considerable bulk and weight when filled and in use, and has a pulley to draw up the plates from the exciting fluid, when not required. The battery which was originally used by the author was a good Grove's arrangement (with nitric acid and porous cells) of five compartments, and it was everyway efficient; but its bulk, its several cells, and the fumes of the nitric acid, proved serious obstacles to its frequent use. In point of energy no comparisons exist between a battery on this principle and that of Smee, a single cell of Grove's being equal to several of Smee's form.

A consideration of the true principles on which the Grove's battery is constructed, and of the best form for producing the greatest effect out of a single cell, led the author to the arrangement of the instrument now shown, and represented in Plate X, fig. 1. It is only a little larger than an ordinary glass tumbler, but it will be found to surpass in energy a six-celled Smee's battery, and it is adequate to most of the requirements of the surgeon. As it will be shown in a state fit for use at the close of this paper, it will be competent for members of this

Society to form their own opinion as to its activities. It consists of a cylindrical glass jar; in fact, of a "preparation" jar, with a wide mouth, fitted with a gutta percha cover. This contains the dilute sulphuric acid. Within is a cylinder of amalgamated sheet zinc, a quarter of an inch in thickness, and inclosed by it is a porous cylinder containing nitric acid and a sheet of platinum. The platinum pole is carried out of the battery by a piece of stout platinum wire, and the zinc pole by a piece of flattened copper soldered to the zinc cylinder. The peculiarity of this battery (and the principal secret of its extraordinary energy) resides in the size and form of the sheet of platinum immersed in the nitric acid. Seen in section the platinum presents a stellate appearance. (See Plate X, fig. 2 *c*.) It is, in fact, formed of a sheet of platinum, folded upon itself to such an extent that double the negative surface is exposed within the porous cylinder to that which would be offered by a plane roll of this metal. This arrangement is in accordance with the well-known law, that the negative surface in the voltaic battery must be as large as possible, in order to collect the diverging lines of chemico-polar induction. The cylindrical arrangement of the zincous element of this battery affording a large surface for chemical action, and also favouring its close approximation to the surface of the platinum, and thus opposing the least resistance to the chemical action, confers upon it additional activity. In addition, the solidity and mass of the connecting portions, and the thickness of the wires permitting the free passage of the electric current, form important features in its construction, the resistance being thus reduced to its lowest point. There is probably no other one-celled battery in use which, in proportion to its size, equals this in power.

The author's object in designing this battery has not been to produce an instrument for the use of the scientific chemist, but for the practical surgeon; one which will be perfectly simple in its parts, not liable to derangement, always ready for use, and of a high degree of intensity. In order to effect the first of these objects, the battery

shown to this Society is entirely of home manufacture, and it may therefore be easily made by others who desire such an apparatus. The only costly part of it is the platinum foil; but this, as it wastes not, and can always be converted again, need not be considered. A good-sized sheet is procurable for about fifteen shillings, and may be sold, when not again required, for nearly that amount. The rest of the arrangement costs about half-a-crown. The battery is excited with the ordinary dilute sulphuric acid of the Pharmacopœia, and with strong nitric acid for the porous cylinder. In order to have the battery always ready, and to economise the nitric acid, the porous jar is drawn out and put aside in a glass jar with a stopper—another preparation jar, in fact, and kept in the dark. In two or three minutes the whole apparatus can thus be put together and in a state fit for use. Two stout copper wires, as flexible as can be had (and they may be made very soft by being heated to a red heat and then plunged into cold water), connect the battery with the cauterizer, and by pressing down the button of the latter a white heat is immediately produced on its platinum point. If, in other hands, this simple and economical battery be found as efficient as it has proved itself to be in the author's, it will prove of material assistance in extending the practice of cauterization by electric heat.

It remains for the author to indicate the character of the diseases in which this instrument may give good aid to the surgeon. Having regard to the principles already laid down as to the physiological action of the cautery, it may be said to be specially indicated in diseases of the cervix uteri attended with great congestion, with ulceration, and loss of tone in the blood-vessels and general structures of that part, and long resisting a milder treatment. It is also valuable in treating vascular growths from the edges of the os or lining membrane of the canal, such as the small polypi which are so frequently the source of tremendous hæmorrhage. The suggestion of cutting through the neck of an *intra*-uterine polypus by this agent does not deserve

serious consideration for a moment. It is likely to be extremely useful in touching the unclosed edges often remaining after the operation for vesico-vaginal fistula. It is probably most useful in treating diseases of the external organs of generation. The vascular tumours of the urinary meatus are curable by this means when all others prove but of little avail. The removal of warty excrescences, whether of venereal origin or otherwise, may be effected without risk of hæmorrhage by this means; and in that obstinate disorder of the mucous surfaces characterised by the presence of several small inflamed patches around the orifice of the urethra, which gives so much distress, and is often the cause of intense pruritus, it will be found of great benefit.

Of the real value of this instrument, its handiness in use, and of the good success which has followed its employment in many of the cases thus referred to, the author can speak from his own experience; and with a short note of three cases, selected from many only as illustrations, he will conclude this paper. The first is a case of ulceration and hypertrophy of the cervix uteri. The patient, a married woman, aged thirty-seven, of sallow and unhealthy aspect, applied for relief in consequence of a succession of miscarriages, five or six in number, which had reduced her to a state of extreme weakness and exhaustion. Her general symptoms were of the familiar type so well known to the obstetrist. She had constant sinking at the chest, with dyspepsia, pain in the side and back, difficulty in walking for any length of time, and a considerable, thick, and sometimes blood-tinged discharge from the vagina. The cervix uteri was much enlarged, and was occupied at the os and within by an ulcer of considerable size, the granulations of which were large and fungous. After a little preliminary treatment, consisting chiefly of injections and one or two applications of the nitrate of silver, the surface of the ulcer was cleaned and its secretion checked. The electric cautery was then applied on two occasions—little pain was experienced, and a very marked change for the better was soon observed. The os contracted, the general volume of the uterine neck dimi-

nished, the ulceration healed, and in a few weeks the patient was cured. In many other cases of a similar nature an equally marked benefit has been obtained.

The obstinate character of vascular growths from the edges and canal of the urinary meatus in women has repeatedly been noticed by obstetric writers. A variety of treatment has been adopted. The author believes himself to have been among the first to treat these troublesome excrescences with the cautery, and his experience has since been confirmed by that of others. To select one instance—a lady residing in the country had for several years been troubled with extreme annoyance after emptying the bladder, and with great tenderness and soreness of the external genitals, arising from a vascular growth springing from and half embracing the orifice of the urethra. The advice of a medical gentleman in the country was to apply once or twice a week a stick of lunar caustic to this excrescence, and a hospital nurse was employed for this purpose. As might have been anticipated, no permanent good came of this practice, and the distress and inconvenience increasing, the patient at length applied to the author, with a view to the removal of the cause of her suffering. The growth was easily and at once cut through, without hæmorrhage, by a ligature drawn through its base, and shortly after the lower half of the urethral orifice, from which it originated, was firmly touched with the cauterizer at a white heat. The patient soon afterwards returned into the country, entirely relieved of her distress and of its cause. And it is satisfactory to add that up to this date, an interval of several years having elapsed, there has not been the slightest return of the malady.

The last illustration of the value of this instrument is in the treatment of a not very uncommon state of the mucous membrane in the vicinity of the meatus—a state frequently, through not always, coexisting with the urethral caruncle. The disease manifests itself in the appearance of several irregular-shaped patches, generally of a vivid-red colour, and extremely tender in some cases, while in others they give rise to a most severe degree of pruritus. A married woman has

recently applied to the author, who is suffering from this state of the mucous membrane, a condition which, it may be remarked, has been well described in a lecture by Dr. Simpson, and which must be probably familiar to some present, though it is not noticed in the works of obstetric authors. These patches are almost incurable by any ordinary treatment. The writer has touched them in other instances repeatedly with lunar caustic, and even with strong nitric acid, and they have always reappeared after a short time. The patient had suffered from intense pruritus for fifteen years, only occasionally obtaining a temporary relief. It appeared to the author a fit case for the use of the electric cautery, as the tender and irritable spots seemed to be the source of this distressing symptom. One or two spots at a time were touched by the wire at a white heat, the patient evincing no symptom of pain greater than on the application of ordinary caustic, and, indeed, stating that it was less than with some of the caustics which had been employed. In a short time the most marked relief was given, and the spots touched have wholly disappeared. The patient now says that for fifteen years she has not been so free from inconvenience. There yet remain one or two patches which require treatment, and there is every reason to believe that on the removal of these she will be liberated from a disease which has worn down her energy and destroyed her happiness in no ordinary degree.[1]

These cases are merely to be considered as *types*, and are not relied upon as evidence of the utility of this mode of treatment. Since the first publication of his note on this subject to the present time the author has had sufficient and repeated proof that, in cauterization by electric heat, there is presented to the obstetric surgeon a means of dealing with certain of the diseases of women of no ordinary value. And he would repeat, in closing his paper, the statement made at its opening, that there is a peculiar property in this treatment which is not found in that of any other mode of cauterizing to anything like the same extent, except in the actual cautery, of which it is, after all, only a very convenient and useful modification.

[1] A complete cure has now been obtained.

During the discussion which followed the reading of this paper, Mr. Ellis exhibited to the Society the battery and the cauterizer; the latter was at pleasure raised to a white heat so intense as to kindle gas, and it could be passed through several folds of paper without encountering the least resistance. The battery was ready for use in two or three minutes, and was taken to pieces again with equal rapidity and facility.

Dr. Marion Sims (of New York) expressed his gratification at the success Mr. Ellis had attained in the construction of the instrument. Some years since he had wished to use the electric cautery, but had been deterred from doing so by the great cost of the instrument at that time used, and the extreme inconvenience attending its working. He should take a specimen of Mr. Ellis's apparatus with him to America.

Dr. Barnes observed that the actual cautery was so little practised in this country that the materials, perhaps, were deficient for forming a correct appreciation of its value, and hence the interest of Mr. Ellis's communication. Dr. Barnes had, however, in Paris, seen in many instances hypertrophy with induration of the cervis uteri—a condition in which ordinary treatment by chemical cauteries was so often tedious or unsuccessful—speedily cured by a few or even by one application of the white iron. He had seen women endure this operation without any evidence of pain. The important point was to secure a white heat; a red heat was both more painful and less effectual, and the red iron was apt to stick to the flesh. For this and other reasons he was of opinion that the electric cautery of Mr. Ellis had great advantages, and that it would prove a most valuable addition to our means of healing a class of cases otherwise very intractable.

Mr. Spencer Wells wished to know if the porcelain used by the author removed one great objection to the galvanic cautery when wire only was used—namely, the ease with which it was cooled—put out, he might say—by the blood or fluid of the part cauterized. Years ago, before their distinguished visitor, Dr. Sims, had led the way towards the present ready method of curing vesico-vaginal fistula by sutures of silver wire, he had frequently applied the galvanic cautery to the edges of these fistulæ; but the wire was so soon cooled, and so many applications became necessary, that of late it had been used in the Samaritan Hospital only for destroying vascular growths of the urethra. If by using porcelain cylinders Mr. Ellis overcame this objection, he had rendered the profession fully as great a service as he had by the arrangement which made the battery so portable.

Dr. Tanner remarked that he spoke with some diffidence after the observations which had been made in praise of the electric

cautery by the previous speakers. But although he fully recognised the great ingenuity manifested by Mr. Ellis in the construction of his battery, yet he did not think the instrument was likely to prove so useful in practice as this gentleman appeared to assert. Where the application of the actual cautery was needed, as in some few diseases of the cervix uteri, he thought the simple instrument in common use answered every purpose; and he had not found that its employment gave rise to those feelings of alarm which had been dwelt upon. He had formerly freely tried the cautery for the purpose of healing small vesico-vaginal fistulæ, but his success had been so inconsiderable that he felt the proceeding ought to be abandoned. The operation with the silver-wire sutures for curing these cases was now so perfect, that, in his opinion, it should always be resorted to in preference to experimenting with the cautery. Mr. Ellis had remarked in his interesting paper that the actual cautery was especially applicable to the treatment of vascular tumours of the urethra; but he (Dr. Tanner) found no difficulty in radically curing these painful growths by excising them with a pair of well-pointed scissors, and afterwards applying a small drop of nitric acid to the wound. Injury to the surrounding parts by the acid was easily prevented by using a little cotton wool soaked in a strong solution of carbonate of soda.

Dr. Graily Hewitt thought there could be no question as to the fact that the instrument exhibited was most complete, ingenious, and admirably adapted for cauterizing purposes. The instrument, however, was one thing, its applicability another, and he could not agree with the author in considering that the use of the cautery in this form was necessary in the treatment of uterine disease, unless in very exceptional cases. For the destruction of vascular tumours of the urethra, for the removal of certain affections of the external generative organs to which the author had alluded, the electric cautery was doubtless both efficacious and suitable. With reference, however, to that large class of cases, of which the author had given a typical instance, in which there is so called "ulceration" of the os uteri, he must express his opinion as decidedly opposed to this part of the author's practice. Such cases would be best treated by other and more simple methods, the "ulceration" not being ulceration at all, in the true sense of the word; and with respect to indurations of the cervix, he had found a simpler treatment than that by strong caustics usually successful. The extensive application of the actual cautery to disorders of the os and cervix uteri was, as he believed, unnecessary, and without a legitimate foundation in true views of uterine pathology.

Mr. Robert Ellis, in reply to Mr. Spencer Wells's inquiry, said that this cautery was both furnace and cauterizer united in one instrument, and therefore its caloric was less easily lost (or

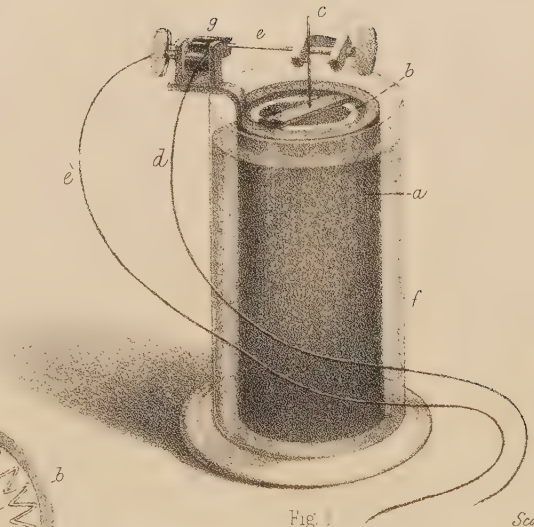

Fig. 1.

Scale $\frac{1}{3}$ nat. size.

Fig. 4

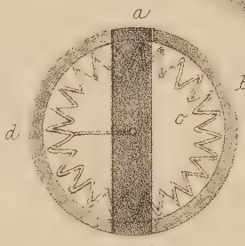

Fig. 2.

Scale $\frac{2}{3}$ nat. size.

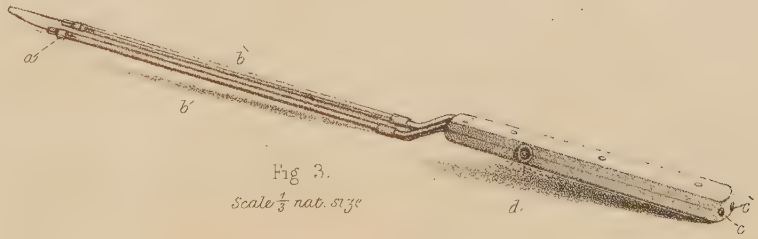

Fig 3.

Scale $\frac{1}{3}$ nat. size

W. West. imp.

rather quicker restored) than that of the ordinary actual cautery, and not so likely to be extinguished by blood and other fluids, the electric current sustaining its temperature to a certain extent. In reply to Dr. Tanner, he reminded the Society that it was not for closing a fistula that he proposed this instrument, but for completing that work when minute apertures were left after operation. Also, that in his experience the treatment of the vascular caruncle and the inflamed patch was most obstinate and disheartening under the use of ordiuary escharotics, and in this he was supported by that of Professor Simpson, who actually proposed to excise the little bits of mucous membrane which he was unable to cure by caustics. Others also had met with a similar ill-success. But the treatment by the cautery was surprisingly useful and painless, and of its ultimate value he had very sufficient and gratifying evidence. In reply to Dr. Graily Hewitt, he might take occasion to remark that the present was not the opportunity for discussing the long-vexed question of ulceration of the cervix; as to its existence and the value of the treatment he had suggested, his own mind had long been satisfied.

DESCRIPTION OF PLATE X.

Fig. 1.—Battery arranged for use.

a. Zinc cylinder.
b. Porous jar, with platinum foil and nitric acid.
c. Platinum wire, connected with platinum foil.
d. Wire from the zinc cylinder.
e, e`. Wire from platinum.
f. Glass jar, holding dilute sulphuric acid.
g. Wood clamp, to secure (and insulate) wire *e.*

Fig. 2.—Section of porous cylinder.

a. Piece of hard coke for supporting conducting wire *d.*
b. Porous jar in section.
c. Platinum foil, folded in a stellate form.
d. Conducting wire, passing from platinum foil *c* through a hole in the coke *a.*

Fig. 3.—Cauterizer.

a. Loop of fine platinum wire, connected to poles of battery through—
b, b`. Stout wires passing through the handle to—
c, c`. Point of connection for wires of the battery.
d. Button, by means of which contact is made or broken at will.

Fig. 4.—Gutta-percha lid covering the jar. The platinum pole projects through the hole in its centre.

CASE OF INGUINAL HERNIA OF THE RIGHT OVARY, SUCCESSFULLY REMOVED.

By A. Meadows, M.D. Lond., M.R.C.P.,
ASSISTANT-PHYSICIAN FOR DISEASES OF WOMEN AND CHILDREN AT KING'S COLLEGE HOSPITAL; PHYSICIAN-ACCOUCHEUR TO THE ST. GEORGE'S AND ST. JAMES'S DISPENSARY.

Cases of hernia of the ovary are so extremely rare, some of our highest authorities not having seen a single instance of it, that but a casual mention of the affection will be found in most of the systematic treatises on the diseases of females. I think, therefore, that the following details of a case which lately came under my care are well worthy of record.

The patient was a single woman, twenty-three years of age, and gave the following history. From birth she had had a swelling in the right inguinal region, which she had always been taught to regard as a rupture, but she had never worn anything for it, and it gave her but little inconvenience; it never disappeared, nor did it increase in size, but she occasionally suffered pain from it. At fifteen she began to menstruate, and continued doing so at regular intervals, always with more or less pain, but this had no effect upon the inguinal swelling. About three years ago she first noticed that this swelling had increased in size, or rather that another one had come below and internal to the original one, and that it was very tender and painful; she says it came quite suddenly, but how she knows not, she had been stooping just before she perceived it. At the menstrual period following this she suffered most violent pain, different to any she had experienced before; it preceded the discharge, began at the bottom part of the last-named swelling, and extended along the groin and through the inside to the back; at the same time the tumour much increased in size. From

that time to the present she suffered in a similar way, if anything, more acutely, so that she was for a week or more, at every monthly period, obliged to keep her bed. Sometimes the tumour would swell up to the size of two fists, and be exquisitely tender to the touch. In the interval between the menstrual period she suffered little or nothing from it. She has been compelled to give up her situation as a servant, and has become very hysterical and delicate. About three months before I saw her she had been into one of the London hospitals, and I learned that the opinion there formed of her case was that she had a congenital inguinal hernia, and that the bowel was probably adherent to the sac, as it never could be returned; it was thought also that the lower and more recently formed swelling was due to the presence of the right ovary. The surgeon under whose care she was, after a consultation with his colleagues, declined to interfere, thinking it unwise to run the risk of an operation unless symptoms of strangulation of the bowel should come on, and render it absolutely necessary in order to save her life.

I first saw her on July 27th, and after one or two examinations had no doubt about the nature of the lower tumour—that it was ovarian. It was then situate in the upper part of the right labium. Of the upper swelling, which was to the right of the internal abdominal ring, I could determine nothing. I, however, strongly advised that something should be done surgically. She was then under my care in a private home for incurables, where she was destined to remain all her life if nothing could be done to cure her. I accordingly consulted my friend, Mr. Lawson, who agreed with me entirely, both as to the nature of the case and the course to be adopted; in this Mr. Fergusson also agreed. It was thought probable that the upper tumour was a hernia of the omentum, but as it had given no inconvenience there was no need to interfere with it.

On the 27th of August, the patient being placed under chloroform (the menstrual period had passed about a week), Mr. Lawson proceeded to remove the lower tumour by an

incision about four inches long, made over the course of it. There was no difficulty in separating the tumour from its attachments of fat and cellular tissue; it was not contained in any cyst or sac that could be discovered, but its upper portion or pedicle, which went through the inner abdominal ring, and was probably part of the broad ligament, was found distended with fluid. The cyst was punctured, and about an ounce of fluid let out; then, as much of the pedicle having been drawn out as could be done without difficulty or force, a ligature was tied round it, and the tumour separated. The pedicle was afterwards secured to the edges of the wound, which were brought together by silk sutures. During the operation the abdominal cavity was opened, and along the pedicle a probe could be passed for about three inches.

The tumour, which measured about two inches long and one in diameter, proved, on section, to be the right ovary; it had, however, undergone a remarkable structural change. Instead of presenting the usual dense, compact appearance, it contained throughout numerous irregularly shaped spaces, varying in size from that of a pin's head to a quarter or even half an inch in length, and all were filled with the same kind of serous fluid as flowed from the pedicle. These cells appeared to communicate with one another, and the whole organ to be infiltrated, as it were, with the fluid in question. There were no proper Graafian vesicles to be seen. The end of the ovary near the stalk was cup-shaped, and presented many openings communicating with the cells already mentioned; from these, with gentle pressure, fluid escaped. The whole weighed about three and a half drachms.

The patient subsequently did remarkably well, but about a week after the operation some inflammation occurred in the wound, and there was a good deal of tenderness in the neighbouring parts. A small abscess formed in the place where the pedicle was secured, and probably extended into the pedicle itself. After a few days' poulticing, however, it burst externally, and discharged freely for a day or two; ultimately it all healed up, and in rather less than a month the patient was quite well.

At the first menstrual period after the operation there was evidence of slight activity in the neighbourhood of the groin, attended with some pain and a little increase of the swelling which still remained. It was, however, comparatively unimportant, and in the two subsequent periods which have elapsed no pain or inconvenience whatever has occurred.

Since the operation I have submitted the ovary to a more careful examination, and it seems to me that probably that portion of the pedicle which was left, and which was then thought to be a portion of the broad ligament, was in reality part of a cyst which had formed upon that end of the ovary the nearest to the abdomen and to the uterus when *in situ*. This supposition is strengthened by the cup-shaped appearance observable at that end of the ovary, where were also seen some openings as if into smaller cells, and further by the peculiar appearance of the ovary itself, which, as I said, contained numerous variously sized interspaces.

It is remarkable, as was pointed out by M. Deneux in 1813 (the only authority, so far as I know, who has written specially upon hernia of the ovary, and who collected some curious instances of displacement of this organ into the other pelvic outlets), that the inguinal is much more common than the crural form of ovarian hernia—as nine to one—contrary to what we should expect, seeing that the reverse obtains in regard to ordinary hernia in the female. The occurrence of inguinal hernia appears to favour this kind of displacement, for in most of the cases collected by Deneux there was a hernia of some other part of the abdominal viscera. His cases, however, are deprived of much of their value from the absence of any history; they were mostly specimens found in the dead-house, or else congenital displacements. No light was thrown, during the operation, upon the cause of the displacement in this particular case; the other swelling was quite distinct from this, and was thought not to be a hernia at all; it certainly is not intestinal.

There could, I think, be no doubt about the propriety of an operation, formidable as it afterwards appeared to be; and

the result fully corroborated the advice given. I believe that in the majority of cases, with careful management, the operation may be regarded as comparatively trifling, and, weighed against the intense suffering which every menstrual act brings to the patient, the duty of attempting its removal seems very apparent. Possibly, had the patient been seen when the accident first occurred, or at least after the first menstrual period, when so much pain had been experienced in the tumour, its nature might even then have been diagnosed, and its replacement happily effected either by the taxis or by operation. The case seems to indicate such a plan of treatment for future adoption.

INFLAMMATORY DISEASE OF THE SKIN OF THE HEAD AND UPPER PART OF THE BODY OF AN EIGHT MONTHS' FŒTUS, WITH EXUDATION OF PLASTIC LYMPH.

By George D. Gibb, M.D., M.R.C.P.

On the 5th of October, 1861, I was sent for to see Mrs. C—, æt. 25, who was in labour with an eight months' child; she had been poorly for two days, but now had strong pains, and in the course of some hours birth was given to a child not larger than a four months' fœtus. The hands were firmly adherent to the sides of the head; they, as well as the scalp and upper part of the body, seemed as if recently inflamed, and were covered with plastic lymph, a condition so unusual that the fœtus was brought before the Society for an opinion upon it. Mrs. C—has had two previous miscarriages, but never has carried a child to its full term.

The appearances *now* presented by the preparation are not nearly so well marked as they were on the day of its expulsion. The mother made a remarkably quick and good recovery.

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